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AIR EXPRESS: DEVELOPMENT AND SERVICES*

FRANK E. QUINDRY†

I. INTRODUCTION

Few persons will deny that, today, speed is the first requisite of any transportation service. It is no wonder, then, that many business houses are shipping goods rather regularly by air express —used formerly only in cases of extreme emergency. There are still many important items of an "emergency" nature, such as machinery parts; parts of automobiles, radio, and electric motors; oil-well supplies and replacements; serums, medicines, and surgical instruments; pass-ports and tickets which have been forgotten by travellers; news photos, valuable papers, political campaign literature, samples and innumerable other articles.[1] These shipments are of such volume that, if all were sent by air express, the present facilities of the airlines would no doubt be inadequate to transport them.[2] There are many other goods that could well be carried by air express.

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†Member of Illinois and Michigan Bars. District Traffic Manager, Braniff Airways, Inc. Formerly pilot, First Pursuit Group, Selfridge Field. First Lieutenant, Air Corps Reserve, U. S. A.

1. *F. Haag, Jr.*, "Commodities Moved by Air Transportation" (Calendar Year 1930), Bureau of Foreign and Domestic Commerce, U. S. Dept. of Commerce.

2. Cf. *M. C. Abrams*, "A Unified Air Express Service," 31 Aviation 287 (1932).

The rapid carriage of goods, apart from baggage, may be classified as "air express" and "air freight." The terms are self-explanatory and follow the distinctions made between express and freight carried by rail. The reason for offering an air freight service is due largely to the rapid obsolescence of aircraft. Competition has forced the airlines to use the most modern and the swiftest aircraft for passenger traffic. As planes are replaced by newer models, the old ones—sound structurally—can be utilized in the air freight service.[3] Since the original cost of this equipment has been generally written off prior to replacement, it can be used for purposes of air freight at a cost not greatly in excess of the cost of actual operation and maintenance.[4]

The purpose of this study is to consider the development of air express, the services it renders, the legal problems arising out of the express contract and carriage of goods by air. This first article will be confined entirely to the first two questions.

II. Commodities Carried by Air Express

Volume of Commodities:

The total volume of articles, carried by scheduled domestic and foreign airlines of the United States as air express, increased from 3,555 pounds in 1926[5] to 1,600,821 pounds in 1932.[6] Private air express carried by the Ford Motor Company in 1926 amounted to 1,729,535 pounds and in 1931 to 1,532,156 pounds.[7] In 1932 the Air Corps air transport supply service carried 1,003,578 pounds of material for use in its various flying activities.[8]

Correspondingly, 5,782 passengers were carried on scheduled airlines in 1926[9] as compared with 540,681 in 1932.[10] In 1926 a total of 810,855 pounds of air mail was carried and in 1931 this amount carried in domestic commerce increased to 9,097,411

3. Editorial, 13 Airway Age 4 (July 25, 1931). See also: "T. & W. A. to Run All-Express Line," 13 Airway Age 3 (July 25, 1931).
4. See Section V, "Air Express Rates," infra.
5. 3 Air Commerce Bull. 558 (1932).
6. "Air Lines Show Increases in Passenger and Express Traffic, Decrease in Air Mail," Special Bulletin, Aero. Branch, Dept. of Commerce (Feb. 1933).
In 1931 the Railway Express Agency handled 135,371,691 rail shipments and in 1932, 103,876,568. From a survey made five years ago the average shipment weighed 68 pounds. This average has probably changed somewhat since then: from letter from *Charles A. Lutz*, Vice-Pres., Railway Express Agency, of Feb. 28, 1933.
In 1931, 1,151,348 pounds were carried by airline express: loc. cit., note 5.
7. Loc. cit., note 5.
8. Letter from Information Division, Office of the Chief of the Air Corps, U. S. Army, Feb. 16, 1933.
9. Loc. cit., note 5, p. 559.
10. Loc. cit., note 6.

pounds[11] and dropped to 7,393,257 pounds in 1932.[12] It is thus evident that air express is doing its share to keep pace with aviation improvement.

Kinds of Commodities:

Information is meagre as to what has been carried and in what directions the movements operated. However, from available statistics it appears that at least 300 types of articles have been carried—ranging from art work and fruit to turtles and yeast. Commodities which have been most frequently carried are newspapers, commercial and legal papers, printed matter, manuscripts, advertising matter, films, miscellaneous merchandise, wearing apparel, fabrics, silks, electric goods, jewelry, furs, photographs, plates, cuts, blueprints, auto parts, hardware, and cut flowers.[13]

Already considerable thought has been given to the carriage of ripened fruits and vegetables from the south to northern markets.[14] Plane-loads of fresh fish packed in dry ice have been carried from Mexico to Brownsville.[15] Day-old chicks which require no food or water during the drying-out period of 36 hours after hatching have been transported in great numbers from hatcheries.[16] Fresh flowers are a constant source of revenue even under present conditions,[17] and as rates are adjusted to lower levels vast movements of goods by air can be expected.

Regional Movements:

Middle West (55.5%)—In a regional study of airline movements of commodities in 1930, it was found that slightly more than 55% of all air express originated in the middle west, principally at Chicago, and followed in turn by Cleveland, Detroit, Moline, Milwaukee, Toledo, Indianapolis, and Cincinnati. Shipments from Chicago consisted largely of papers, checks, films, electric goods and parts, printed matter, miscellaneous merchandise, dresses and cloth-

11. Loc. cit., note 5, p. 559.
12. Loc. cit., note 6.
13. *F. Haag, Jr.*, Op. cit., note 1, p. 4. "Any article that will be carried by domestic railway express can be sent by Pan American Air Express to Mexico, the West Indies, Central and South America. Orchids, plants, baby chicks, and other fragile articles travel constantly over the airways. Machinery parts, merchandise of all types, fashions, minerals, gold, precious stones and other articles are carried every day. There is no article in foreign trade, with the single exception of heavy livestock, which Pan American has not carried": Pan American Airways Express Tariff (effective Aug. 1, 1932).
14. *F. Haag, Jr.*, Op. cit., note 1, p. 11.
15. *H. H. Blee*, "The Future of Air Express," 27 Aviation 1155 (1929); 1 Air Commerce Bull. 7 (Jan. 2, 1930).
16. *M. C. Abrams*, "Air Express Possibilities in the United States," 30 Aviation 686 (1931).
17. *F. Haag, Jr.*, Op. cit., note 1, p. 5; *R. S. Findley*, "Who Ships What by Air Express," 18 U. S. Air Serv. 27 (Jan. 1933).

ing, jewelry, and cuts. Cleveland shipped photographs, copies, checks, hardware, miscellaneous parts, printed matter, merchandise, art work, advertising matter, aeroplane parts, and glass. Detroit was the originating point for air shipments of printed matter, photographs, papers, auto parts, springs, tools, airplane parts, and other miscellaneous parts. From Moline, air express carried auto parts, printed matter, and merchandise; from Milwaukee, castings, films, and merchandise; from Toledo, merchandise and miscellaneous articles; from Cincinnati, merchandise; and from Flint, principally printed matter.

Eastern Seaboard (17.4%)—The greatest part came from New York City and was mainly of an emergency nature, although dress manufacturers were taking an interest in shipping samples to various sections of the country by air.

Pacific Southwest (14.2%)—The movements originated largely at San Francisco, Los Angeles, San Diego, Oakland, and Salt Lake City, but the types of goods carried are not shown.

New England (8.6%)—Most shipments were between New York City and Boston. Northbound shipments between these points exceeded southbound by about 40% and consisted of electrical goods, radio parts, and news service material. From Boston to New York the shipments included electrical goods, radio parts, airplane parts, and shoes.

Pacific Northwest (3.1%)—Shipments consisted of newspapers, auto parts, films, cut flowers, and merchandise. Approximately 95% of the air express handled at Spokane was estimated to have been emergency shipments of small and light packages.[18]

The remaining 2.2% originated in the *Southeast, Gulf-Southwest, Central Northwest,* and *West Mid-Continent* regions.

Coast to Coast:

These lines have carried bank clearances, advertising copy, clothing, legal and mercantile papers, dentists' supplies, store goods for preview sales, jewelry, machinery parts, matrixes, medicines, serums, drugs and surgical instruments, oil-well supplies and replacements, feature and news films, photographs, printing plates, samples, documents and securities, style merchandise, and vegetables and fruits for special occasions. Gardenias are regularly shipped from California to New York.[19]

18. *F. Haag, Jr.,* Op. cit., note 1, pp. 6-10.
19. Ibid., pp. 4-5.

What Commodities May be Carried:

It is estimated that at least 50% of railway express consists of dry goods, millinery goods, and men's, women's and children's clothing from the wholesaler to the retailer, and from the retailer to the customer. The remainder is made up principally of ice cream, cut flowers, fresh fruits and vegetables, laundry, newspaper ready print, plate matter for small newspapers, moving picture films, perishable food products (such as berries and small fruit, eggs, fresh fish, oysters, and poultry), milk and cream for domestic consumption, sour cream for butter making purposes, bread, fragile articles (such as cut glass, chinaware, scientific instruments, cameras, valuable paintings, statuary, growing plants, x-ray tubes and machinery), live stock, pet stock, and other live animals of all kinds, newly hatched chicks, money, paper currency, gold, silver and minor coin, securities, drafts, notes, bullion (including sulfides, cyanides, and similar forms of uncoined gold and silver), jewelry, valuable papers, and other articles of unusual value.[20]

By comparing the list of the foregoing articles with those already carried by air it is evident that, with lower rates and future development, air express may make serious inroads into the railway express business—at least between the larger cities.

III. Air Express Service

Area Served by Air Express:

Air express service is directly available to shippers in practically every important city in the United States. The only states which are not served are Maine, New Hampshire, Vermont, and Delaware. Direct connections can be made by day or night from coast to coast, from the south and southwest to the middle west, and to the east and west coasts. The northwest is served by feeder lines connecting with one of the main continental systems. A project is now being considered for the extension of a line from Chicago, Detroit and Milwaukee to provide a through route from the New England and eastern sections to the Pacific northwest.[21]

The average length of individual flights on airlines is about 150 or 200 miles. With the advent of faster equipment this distance may be increased to provide especially fast transcontinental passenger service. It is, of course, to be expected that these planes

20. *E. S. Ketchum*, Express and Parcel Post Services (1918), pp. 53-58.
21. Chicago Daily Tribune, Jan. 29, 1933.

will carry a limited amount of express, just as other passenger planes do.

The relatively long distances traversed by airlines on each leg of a journey restricts, to a great degree, the number of purely intrastate services of both passengers and express. It is likely, however, that the air freight lines may make more frequent stops, since their speed will not need to be so high as that required for passenger planes. This will mean a coordination of the air freight service with the air express service to the extent of reaching directly, by air, smaller cities than are now touched by scheduled air operations. At present 30 states have within their borders one or more intrastate air express carrying line.

Federal and State Regulations:

The limited number of the cities served by air express, both in interstate and intrastate commerce, has not yet appeared of sufficient complication or importance to the general public, to necessitate government regulations. Although a few states require intrastate airlines to have certificates of convenience and necessity and the federal government requires certificates of authority for interstate passenger lines, these regulations are mainly for the protection of the travelling public. Restriction of competition has not usually been the object of state requirements, and cannot be the object of the federal rules. Nor has the object been the regulation of rates.[22] The only significance to be drawn from these regulations is that cognizance has been taken of commercial air transport operations, and in most cases the orders of state commissions allowing certificates of convenience have included provisions for the intrastate carriage of merchandise as well as passengers.[23]

An added feature to air express service, however, which is not

22. *F. D. Fagg, Jr. & A. Fishman,* "Certificates of Convenience for Air Transport," 3 JOURNAL OF AIR LAW 515 (1932); *H. C. Knotts,* "Certificates of Convenience and Necessity for Air Carriers," 3 JOURNAL OF AIR LAW 58 (1932); *T. H. Kennedy,* "The Certificate of Convenience and Necessity Applied to Air Transportation," 1 JOURNAL OF AIR LAW 76 (1930); *M. W. Willebrandt,* "Federal and State Control of Air Carriers by Certificates of Convenience and Necessity," 3 JOURNAL OF AIR LAW 159 (1932); *I. S. Rosenbaum,* "Regulation of Aircraft as Common Carriers," 3 JOURNAL OF AIR LAW 194 (1932); Report of the Standing Committee on Aeronautical Law, 1932, American Bar Association, 1932 U. S. Av. R. 319, 324-329; *Application of Gettysburg Flying Service, Inc.,* 8 Pa. P. S. C. R. 787, P. U. R. 1928 B287, 1932 U. S. Av. R. 181 (1927).

23. *Application of Gettysburg Flying Service, Inc.,* cit. note 22, pp. 181, 183; *Application of Francis A. Riordan et al.,* P. U. R. 1928D 854, 1932 U. S. Av. R. 185 (Nev. 1928); *Application of U. S. Airways, Inc.,* Colo. Pub. Utilities Comm., Oct. 2, 1928 (not officially reported), 1932 U. S. Av. R. 187; *Applications of Century Air Lines, American Airways, Inc., & National Air Transport, Inc.,* Ill. Commerce Comm., Aug. 26, 1931 & Oct. 7, 1931, 1932 U. S. Av. R. 197.

found to the same degree in the case of passenger service is the coordination of railroad express or of bus company express with that of airlines. The Railway Express Agency has exclusive contracts with six airlines covering a large part of the United States for carrying air express. In coordination with this is the entire railway system over which the agency operates. At present, however, rail and air rates are not coordinated, but are added one to the other.

On the other hand, a coordination of bus and air express presents a different problem. A combination arrangement between Transcontinental & Western Air, Inc., and Greyhound Bus Company provides for joint similar rates to all cities within certain specified zones covering a major part of the United States.

It has been questioned, under the Interstate Commerce Act, whether air express is subject to the jurisdiction of the Interstate Commerce Commission. Clearly, the Hepburn Act gives the Commission authority over the Railway Express Agency.[24] Does this also give it jurisdiction over *air* express shipments of this company? If it gives this jurisdiction over its air express, then why should not that same authority extend to airlines carrying express in competition with it?

These questions are answered by Commissioner Frank McManamy in a letter as follows:[25]

> "Section 1 (3) of the interstate commerce act defines the term 'common carrier' as used in the act as including express companies, and if this provision stood alone it might be interpreted as broad enough to include all companies conducting an express business whether the means of transportation were by land, water or air; but the provision does not stand alone and must be read in connection with paragraph (1) of section 1 which limits the application of the provisions of the act to common carriers engaged in transportation by certain means, that is, 'transportation of passengers or property wholly by railroad, or partly by railroad and partly by water when both are used under a common control, management, or arrangement for a continuous carriage or shipment' or the 'transportation of oil or other commodity, except water and except natural or artificial gas, by pipe line, or partly by pipe line and partly by railroad or by water,' or the 'transmission of intelligence by wire or wireless * * * .' It will be observed that transportation by air is not included and it therefore follows that transportation by air either of freight or passengers whether conducted by a carrier also engaged in transportation by railroad or by an express company is not within the provisions of the act."

In addition to this argument it is practically certain that air express

24. 1906.
25. Feb. 16, 1933.

was not contemplated by the authors of the Hepburn Act, which was enacted less than three years after the airplane was invented. More recently the attitude of Congress is expressed in the provision of the Air Commerce Act which is construed to deny to another department of the federal government the power to give exclusive franchises or to regulate beyond the requirements of safety.[26]

International Carriage and Regulation:

International carriage of air express has not extended in this country in the same complicated manner as in European and other foreign nations. However, our own Pan American Airways, operating from Miami and Brownsville to countries in the Caribbean Sea and Central and South America, carries a considerable amount of express in foreign commerce. Also, American Airways operates from Detroit to Buffalo by way of Ontario, Canada, and from Albany to Montreal, Canada. Gorst Air Transport makes special trips from Seattle to nearby Canadian points, and Gilpin Airlines carries express between San Diego and Agua Caliente, Mexico.

International regulation has not asserted itself very much in the case of the above operations, except as applied to the flying of airplanes in general over the territory of another country, and as applied to customs requirements.[27] The Havana Convention affects all of our operations to South and Central America and the West

26. Air Commerce Act, May 20, 1926, Ch. 344, Sec. 5(b), 44 Stat. L. 568; 49 Mason's U. S. C. 176, 1928 U. S. Av. R. 333.

27. Air Commerce Act of 1926, cit. note 26, Sec. 7; *F. E. Lee*, "Legislative History of the Air Commerce Act of 1926," 1929 U. S. Av. R. 117, 153; Aircraft Public Health Regulations of 1928, 1929 U. S. Av. R. 270; Aircraft Customs Regulations of 1929, 1929 U. S. Av. R. 267; U. S. Airport of Entry Regulations, 1931, 1932 U. S. Av. R. 295; Havana Convention (effective Aug. 26, 1931), 1932 U. S. Av. R. 298, 2 Air Commerce Bull. 459 (1931); *S. Latchford*, "Habana Convention on Commercial Aviation," 2 JOURNAL OF AIR LAW 207 (1931); "The Fourth Pan American Commercial Conference," 3 JOURNAL OF AIR LAW 104 (1932); Belgium-United States Air Arrangement, 1932, 4 JOURNAL OF AIR LAW 101 (1933); Canada-United States Air Arrangement, 1929, 1929 U. S. Av. Rev. 273; Columbia-United States Agreement Respecting Air Traffic, 1929, 1929 U. S. Av. R. 271; Germany-U. S. Air Arrangements of 1932, 1932 U. S. Av. R. 317; Air Transport Agreements Between Germany and Czechoslovakia, 3 JOURNAL OF AIR LAW 291 (1932); Italy-U. S. Air Arrangements, 1931, 1932 U. S. Av. R. 331; *S. Latchford*, "Air Navigation Arrangement Between the United States and Italy," 3 JOURNAL OF AIR LAW 75 (1932); Arrangement Between the United States and the Union of South Africa, 1931, 1932 U. S. Av. R. 394, 3 JOURNAL OF AIR LAW 290 (1932); *F. D. Fagg, Jr.*, "The International Air Navigation Conventions and the Commercial Air Navigation Treaties," 2 Southern Cal. Law Rev. 430, 444 (1929); *K. Colegrove*, "The International Aviation Policy of the United States," 2 JOURNAL OF AIR LAW 447 (1931); *B. V. York*, "International Air Law in the American Republics," 3 JOURNAL OF AIR LAW 411, 442 (1932); *J. I. Puente*, "Survey of Commercial Aerial Navigation Law in Latin America," 1 JOURNAL OF AIR LAW 119, 127-131 (1930); Mexican Law of Civil Aeronautics (effective June 30, 1930), Art. 41-79, 2 JOURNAL OF AIR LAW 557, 561-567 (1931). See also: Maryland Statutes, 7 L. 1931, Ch. 403, 1931 U. S. Av. R. 365; *A. W. Knauth*, "Federal Airship Foreign Commerce Bill," 2 JOURNAL OF AIR LAW 202 (1931); *E. A. Poe, Jr.*, "The Proposed Federal Merchant Airship Act and Its Comparison With the Existing Maryland Act," 3 JOURNAL OF AIR LAW 179 (1932); Report of the Standing Committee on Aeronautical Law, 1932, American Bar Assn., loc. cit., note 22, pp. 329-336; *R. W. Fixel*, "The Seadrome and International Law," 2 JOURNAL OF AIR LAW 24 (1931).

Indies, but not to Canadian points, since Canada is not a party to it. Because of this and by reason of company agreements with the nations concerned, shipments via Pan American are found to be made under preferred clearances resulting in no delay due to customs arrangements. On the other hand, air express shipments to Canadian points require that landings be made by scheduled airlines in the same manner as private air carriers at the established airports of entry for customs inspections.[28] It is expected that arrangements will soon be made to alleviate this difficulty, but, until then, air express shipments to destinations beyond the airports of entry lose their effectiveness of speed and hence their value to the shippers.

However, it is a principle of international law, based on the idea of national sovereignty over superjacent airspace and recognized by the Havana Convention[29] that each nation has the right to say what airlines can operate, and under what conditions, over its territory, regardless of any agreement allowing planes of other countries freedom of flight within its boundaries.

A further element will soon enter into our international regulations and laws when the projected transatlantic and transpacific airlines are opened for operation. Admiralty practices, further international agreements, and private international law will of necessity be included in the problem.[30]

There have been at least three projected schemes for a transatlantic airline. One has been the operation of airships from the United States to Europe.[31] The present McNary-Parker Merchant Airship Bill was introduced ostensibly to assist in the promotion of this line.[32] A second proposal was to anchor seadromes at intervals of approximately 300 miles and to operate airplanes from New York to Bermuda, the Azores, and hence to the mainland of Europe.[33] A third, and the most recent, has been a plan proposed by a company of high reputation for its efficient operations over

28. Canada-United States Air Arrangement, 1929, Loc. cit., note 27, Art. 6.
29. Cit. note 27, Art. 22.
30. Cf. *B. V. York*, Loc. cit., note 27, pp. 439-440; *A. W. Knauth*, Loc. cit., note 27; Maryland Statutes, cit. note 27; *E. A. Poe, Jr.*, Loc. cit., note 27; Report of the Standing Committee on Aeronautical Law, 1932, American Bar Assn., Loc. cit., note 22, pp. 329-336.
31. *C. L. Lawrance*, "Trans-Ocean Airship Service and Government Support," 5 Aviation Engineering 15 (Dec. 1931); *J. S. McDonnell, Jr.*, "Trans-Atlantic Service," 12 Airway Age 134 (Feb. 1931); U. S. Daily, Jan. 20, 1933.
32. *E. A. Poe, Jr.*, Loc. cit., note 27, p. 181; *C. L. Lawrance*, Loc. cit., note 31, p. 18; *J. S. McDonnell, Jr.*, Loc. cit., note 31, p. 135.
33. *E. Hanson*, "Armstrong Seadrome Project Progresses," 11 Airway Age 353 (Mar. 1930); *E. Hanson*, "Legal Aspects of the Seadrome," 11 Airway Age 1555 (Dec. 1930); *R. W. Fixel*, Loc. cit., note 27; *C. L. Flick*, Chicago Herald & Examiner, Feb. 18, 1933; U. S. Daily, Dec. 15, 1932.

the Caribbean Sea. It has obtained design specifications from two airplane manufacturers of equally high standing and intends to operate huge seaplanes carrying 50 passengers and powered by four motors following the great circle course from the United States through Canada, Greenland, and Iceland to London and possibly other European cities. At the same time, it announced plans for extending another line through Alaska (using its Alaskan airways system as a base) following a great circle course over the Siberian Coast to Japan or China.[34] Other optional routes were also proposed.

The problem of connecting these two routes so as to provide an American air route from Europe to the Orient in competition with the international airlines of Europe is being met in the United States principally by Northwest Airways and American Airways. Already the latter's air mail lines extend from Montreal, Boston and New York, through Buffalo, and Cleveland, to Detroit and Chicago.[35] In the western part of the country, from Chicago and Milwaukee, Northwest Airways has projected a line through the Twin Cities to Seattle.[36] American Airways originally owned the Alaskan airways system before turning it over to Pan American. It may be expected therefore, that the short gap between Seattle and Alaska will be bridged by one or another of the three companies when the transoceanic service is inaugurated.[37]

This presages an air express service which will extend from Europe to the Orient through the United States involving the varied rules, regulations and treaties of nations adhering to the Common law, Civil law, and Asiatic law, as well as the adaptation of many maritime rules.

Services Offered:

Exclusive of Pan American Airways, which operates entirely internationally, and the Inter-Island Airways, Ltd., of Hawaii, we

34. Pan American Airways, Sikorsky Aviation Corporation, and Glenn L. Martin Company. *Wm. Babson*, "Clipper Ships for America's Merchant Marine of the Air," 18 U. S. Air Services 11 (Jan. 1933); Chicago Daily Tribune, Dec. 2, 1932. Recently application was made to the Reconstruction Finance Corporation for a loan to assist in establishing one of these transoceanic ventures: Chicago Herald & Examiner, Feb. 18, 1933.

35. 4 Official Aviation Guide 21 (Mar. 1933).

36. Chicago Daily Tribune, loc. cit., note 21. Northwest's recent acquisition of control of the Kohler Aviation Corporation gives it a direct run from the Pacific Northwest through Milwaukee to Detroit: see Chicago Journal of Commerce, Mar. 2, 1933.

37. This route has been operated seasonally by Alaska-Washington Airways. See *R. Hayes*, "Alaska-Washington—the Short Season Makes the Most Efficient Management of Planes and Personnel Necessary," 12 Airway Age 40 (July 4, 1931).

now have at least sixteen companies which advertise that they will carry air express.

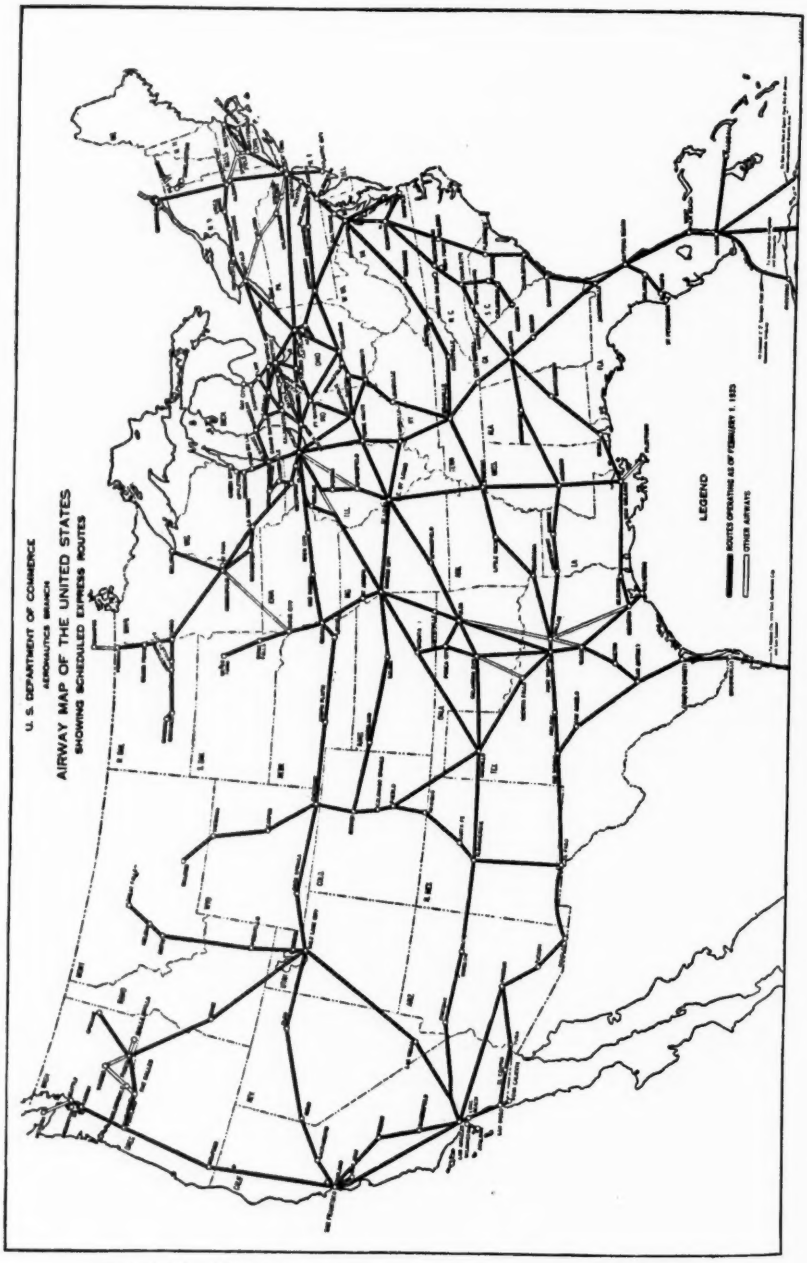
Three companies, American Airways, Transcontinental and Western Air, and United Airlines, operate from coast to coast. Northwest Airways connects the northwest with Chicago, and United Airlines connects this city with the southwest. American Airways controls most of the traffic in New England and the Mississippi valley and Gulf regions. Eastern Air Transport operates along the Atlantic coast from New York to Miami and inland as far as Nashville, Tennessee. United Airlines covers the Pacific coast from Seattle to San Diego and shares the express traffic with Varney Air Services and Transcontinental and Western Air between San Francisco and Los Angeles. Western Air Express serves a great deal of the Rocky Mountain territory and the Pacific southwest. Other companies provide feeder services to these main airlines. The above express carrying lines fly over a total of approximately 27,058 miles in the United States every day, on about 95 schedules.[38]

At present, the bulk of air express is carried by day and a minor portion by night. This results from its dependence on passenger schedules and detracts from its competitive effectiveness with railroads over distances which can be covered over-night by trains. However, a few schedules carry mail at night and several lines are now operating passenger planes during the hours of darkness.[39] The carriage of passengers at night has been delayed because all of the nation's airways have not yet been equipped for night flying.[40]

However, coast to coast night service is now available for passengers, mail and express on all three transcontinental systems. Also the southwest and northwest are connected to Chicago with night schedules. The fast service afforded by the Air Express Company Lockheed planes from Los Angeles to New York in 17 hours is also accomplished partly at night.[41] Transcontinental and Western Air, Inc., contemplates a similar service in 15 hours within a short while. The present fastest passenger schedule from coast to coast is about 24 hours.

In the light of present events, the passenger lines are on the verge of a war for speed. United Airlines has for some time advertised a new two-motored ten passenger, express and mail

38. 4 Air Commerce Bull. 381 (1933).
39. See Official Aviation Guide, Mar. 1933.
40. See map in 4 Air Commerce Bull. 394 (1933).
41. *R. S. Findley*, Loc. cit., note 17.



Photostat furnished by The Department of Commerce, Aeronautics Branch.

plane capable of cruising 155 miles per hour. Transcontinental and Western Air has ordered a Northrup single motored ship of about the same capacity and a cruising speed of 187 miles per hour. This company also expects to use a two-motored Douglas plane capable of about the same speed as the Northrup and of slightly greater capacity. Both of the latter types are equipped with wing flaps and slots which increase their speed effectiveness by enabling them to attain a reasonable landing speed.

Obviously, such high speeds can find nothing on the ground to compete with them. The greater the distance, the more effective this difference becomes. For example, the fastest train service from Chicago to New York City is 18 hours, whereas planes regularly make the trip in six and a half hours and will, within the year, traverse the distance in only four and a half hours. This means that orders can be placed in New York shortly before noon and shipments received in Chicago before the close of business hours on the same day. For shorter distances in the daytime air shipments will be of superior value to ground carriage.

The practical effect of this high speed factor is found in present business conditions. A small stock of goods on hand is necessitated today for merchants and others, so that loss will be minimized or eliminated in the event of a sudden change in styles, particularly in women's clothes and shoes, or a change in economic conditions. Likewise, business men are now compelled to operate on a smaller capital investment and a correspondingly lower stock on hand. The advisability of smaller inventories to obviate oppressive taxation is manifest. It has been estimated by automobile and truck manufacturers that a saving may be effected by the use of air express for carrying spare parts, since it would enable them to eliminate a portion of a huge inventory. One truck company estimated that if a proper air express service were available and the costs were no more than three times those of first class railway express, they could ship by air 60,000 pounds of parts per day to nine distributing points with an estimated inventory of $5,000,000 as compared with the present inventory of $15,000,000 and thirty-two distributing points, in order to provide 24 hours service anywhere in the United States.[42]

Another automobile company estimated that 11% of its current railway express shipments could go profitably by air at the rate of three times first class railway express rates. Individual packages weighed about fifty pounds and the average distance was

42. *M. C. Abrams*, Loc. cit., note 16.

750 miles. It was estimated that this enabled automobile repairs to be made one or two days sooner than when shipments go by railway express.[43]

Inventory costs can be reduced by shipping wheat samples by air instead of by railroad express as at present.[44] Every inventory reduction means a tax reduction and tax reduction is the demand of every business.

Also, air express can be used to advantage by manufacturers or producers of perishable articles by increasing the territorial radius in which sales can be made, and it can develop new markets for such luxury foods throughout the year as frozen foods, fresh fruits, vegetables and sea foods not now available in some communities.

The chief drawback at present to all airlines operations is the undependability of service. Passenger service is continually being disrupted by unflyable weather conditions. Mail service is not, of course, hindered to the same extent, since the same regulations are not in force, nor is the safety factor to be considered as having as much weight. Detailed figures are not available as to the percentage of mail flights delayed or cancelled because of bad weather conditions, but it is believed to average about 7% throughout the year. During winter and spring, cancellations and delays are more frequent than in the summer months. Also, over a long journey, such as from coast to coast, the weather may be good in one part but not in another and hence add further undependability. Air express can move through any kind of weather through which mail can be carried. This is so, of course, where express and mail are carried together. However, where air freight or express is carried without mail there is likely to be a lower percentage of completed schedules. The operator will in such cases give greater consideration to the safety of his cargo and planes. Express cargo pays him less than does mail and he cannot afford to risk possible liability for any uninsured shipments, even though such liability is limited. Also the planes which will be used for air freight are not constructed so as to make them easy to control under very bad weather conditions. Their size and value will make the operator think well before he sends them out under conditions which make mail flying dangerous.

However, there is every reason to believe that within from

43. Ibid.
44. Ibid.

two to five years this lack of dependability on the part of the air express carriers, as well as of passenger and mail carriers, will be a thing of the past. Partially successful efforts have already been made to enable planes to land by means of radio when the pilot cannot see outside of his cockpit.[45] It is already possible and feasible to fly through almost any kind of weather. When it becomes equally feasible to land and take off under such conditions it is believed that airline operations will prove to be more dependable than the operations of any other existing form of transportation. This improvement in safety will naturally enhance the profits in connection with air express by decreasing the loss ratio. Operators of air express will automatically be charged with the liability of insurers of the safe carriage and delivery of goods consigned to their care, and each landing, safely made, will relieve them of this loss burden. As the profits are thereby increased the rates may be correspondingly lowered.

Military Air Freight Carriage:

The Army Air Corps, which has so often in the past paved the way for subsequent commercial aviation enterprises, again gives the airlines a lesson in the carriage of goods. Since the early part of 1932 the Air Corps has operated a regular air transportation service for carrying supplies between four depots and the fields surrounding them. During 1932, 1,003,578 pounds were carried. The shipments consisted mostly of complete airplane engines, airplane and engine parts and accessories, paints, dopes, oils, photographic supplies and equipment, armament supplies and equipment, clothing, cordage, fabric, small and hand tools, lumber, metal and composition material, chemicals, office and school supplies and aircraft and commercial hardware.[46] The effect of this service is expressed in the following paragraph from the 1932 Annual Report, Chief of the Air Corps:

"An air transport supply service operating on regular schedule has been established at the Fairfield, Middletown, Rockwell, and San Antonio Air Depots. Up to April 30, 1932, this service had transported over 120 tons of freight at a saving of $8,000.00 over the cost of packing and transporting by rail. The service operates to reduce the quantity of stock required to be carried at the activities served."[47]

45. See Chicago Sunday Tribune, Feb. 26, 1933.
46. Cit. note 8.
47. Par. 5r, p. 80. Quoted with the permission of office of Chief of the Air Corps. The $8,000 saving combines those of the four depots from Jan. 11, 1932 to Apr. 30, 1932, and does not include costs for overhead such as terminal facilities which a commercial concern would have to account for, but which is already maintained for other army purposes.

Equipment: Types of Aircraft:

Almost every kind of plane now used on airlines is also available for carrying express. There are no standards in equipment, capacities, or storage places for goods. In fact, many airplanes now used for carrying passengers were not designed particularly for airlines, but were produced during the boom period of industry for sale to the general public. This condition is changing with the almost total absence of a general market so that now planes are being designed to comply with the airline operators' requirements, which are generally for the carriage of passengers and mail.

A few of the planes used principally for the carriage of air express both with and without passengers are listed as follows with accompanying details:[48]

Type of Plane	*Total Pay Load*	*Total Express Load*	*Cruising Speed*	*Number Passengers*
Bellanca (Army A.C.-C-27)	2,140	2,140	...	0
Boeing 95	1,450	400	105	0
Boeing 40-B-4	1,421	600	105	4
Flamingo	1,275	200	110	6
Fokker (Army A.C.-C-14)	1,500	1,500	110	0
Fokker F-10	2,000	500	120	10
Fokker (Super-Universal)	1,400	300	100	6
Ford Trimotor	4,980	100	125	13
Ford Freight Carrier	3,000	3,000	...	0
Hamilton	2,500	100	110	6
Lockheed Orion	1,172	152	180	6
Pilgrim	2,100	No set amount	105	9
Sikorsky Amphibian	1,000	200	90	4
Travel Air	1,000	200	105	5

As shown in the foregoing chart a relatively small percentage of the pay-loads of passenger planes is made available for carrying express. As yet, except in the case of the Ford Motor Company private freight lines, and the recently inaugurated Air Express Company, operating between Los Angeles and New York, very little use has been found for large planes equipped to carry only express. It is true, however, that smaller planes, such as the Boeing and the Stearman mail planes designed to carry only mail, are available for the carriage of express also. The drawback to the use of these planes is that they carry small payloads as compared to the operating cost. Air Express rates must be low, whereas these planes were designed to operate at a profit carrying

48. These figures are approximate and representative only, and capacities vary according to what companies use the planes. Often no space is reserved for express if mail, passengers and baggage will fill the plane.

a very lucrative cargo—mail. It will, accordingly, be desirable to have larger planes for carrying express alone, where the unit charge will be low.[49]

Equipment: Stowage Facilities:

From the liability as well as from the operating viewpoint, the methods and places of stowing express shipments in planes present a problem. In the event of a crash, there is greater possibility that goods will be damaged if stowed in the bow of a plane than if placed in the stern. Also, perishable goods may be injured by heat if put too close to the motor of the plane.

There is a great variety of methods and stowage spaces on planes used at present for carrying express. The Lockheed Orion has a baggage space aft of the passenger seats used for express; the Lockheed Vega is sometimes equipped with a baggage or mail compartment in the place of one of the front seats just to the rear of the pilot, and it also has a wing compartment and another baggage space in the rear of the passenger seats; the Sikorsky Amphibian has a baggage compartment in its bow; the Travel Air has a compartment in the rear of the passenger section; the Pilgrim has baggage compartments in the bottom part of the fuselage and also between the pilot and the front of the passenger compartment; and some Ford Trimotors have compartments opening from beneath both wings. In most cases any space available in a plane would be used, if necessary, to carry express shipments offered. This includes cabin space not occupied by passengers.

Where planes have been designed exclusively for carrying freight, the inside of the shell has been stripped to its barest essentials to allow for a greater pay-load.[50] In some planes of this type, the pilot cockpit is open and is placed near the tail of the ship. In others it is either open or enclosed and is located as in the case of most passenger planes near the nose of the plane. Most strictly mail planes are of the former type.

The demand for fast service and the consequent need for avoiding delay at terminals is leading designers and operators to believe that express planes must, in the future, be built with removable containers which can be shifted easily and quickly from small trucks to planes and vice versa.[51]

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49. Cf. *H. H. Blee*, Loc. cit., note 15.
50. "Freight Carrier," 31 Aviation 222 (1932).
51. *H. S. Knerr*, "Freeing the Air Forces of their Ground Fetters," 6 Aviation Engineering 15-18 (July 1932); "An Idea for the Facilitation of Airplane Cargo," 7 Aviation Engineering 22 (1933). Some companies stow their express shipments in metal-lined mail compartments, asbestos pouches, small trunk lockers, or in cloth or mesh bags.

The Air Corps has experimented with several transport planes in an endeavor to determine the most efficient method for loading cargoes. At first, Fokker monoplanes were used. They carried 1,500 pounds, and freight could be loaded through a door located in the under side of the fuselage. A chain hoist was necessary to raise unusually heavy articles such as airplane engines into the cabin. Recently, however, a new type of transport plane has been developed. It is a Bellanca monoplane, and has a carrying capacity of 2,140 pounds. It is provided with a side door for loading freight. The chain hoist is eliminated by towing the engine on a dolly to the plane and loading it into the freight compartment by means of a grooved track running from the compartment to the ground. The track remains in the plane for use when the cargo is unloaded. All freight is securely lashed down to avoid the possibility of it shifting during flight.[52]

The present haphazard method of storing goods in planes naturally demands that they be packed and wrapped sufficiently to insure safe carriage under the circumstances. However, a distinctly airport to airport service would not require the same crating or packing as would be required on ground carriers, since the shipment would not be subject to such rough handling. Also, with the use of containers, the rough handling element is reduced where pick-ups and deliveries or carriage to centrally located warehouses by truck is concerned. This means lower weights per shipment in many instances and a consequent lowering of air transportation costs to the shipper.

Performance: Schedules:

Under present conditions movements of air express shipments depend almost entirely on the demands of passenger traffic and, to a considerable degree, the schedules required for the carriage of air mail. These are largely linked together through the requirements of the Watres Act[53] designed to promote the carriage of passengers by air by providing for their transportation in the same planes which carry the mail. There are, however, a few schedules, particularly at night, which are operated for the carriage of mail only. Any of these schedules are made available for air express.

Passenger schedules are always subject to experiment and change. Each airline attempts to arrange these so as to attract the

52. Cit. note 8.
53. Act of Apr. 29, 1930, Public-No. 178—71st Congress, 1930 U. S. Av. R. 305-307.

greatest possible number of passengers for its own line. Connections with other airlines or different forms of transportation are of secondary importance. Some airlines depend entirely on the passenger traffic for their revenue. Most of the others carry mail. Just a few years ago this was considered the only practicable revenue source. Recently every effort has been extended by airlines, first in competition with railroads and second in open rivalry with one another, to entice the patronage of the travelling public, by solicitation, advertising, and by offering services at reduced fares.

Air mail schedules are arranged for the efficiency of the entire Post Office system. These are naturally more adapted to an air express service, but they still do not provide the most desirable services. It is generally considered that air express requires an extensive and, as nearly as possible, a nation-wide service in order to attract the desired volume of business.[54] This makes necessary schedules which are not only adapted to the needs of the shipping public but which are coordinated to provide good connections between airlines, facilitating the fast movement for which airlines are patronized.

Performance: Aircraft Maintenance:

Air express, which is considered of almost no importance in the preparation of schedules, is again subjected to other demands, when the problem of maintenance is considered. Inspection, repair and overhaul work is not available at every terminal, but only at certain ones where the necessary equipment and personnel are kept. The planes must not only be flown as nearly as possible in accordance with the demands of traffic, but they must arrive at certain prescribed times at the maintenance bases, and the proper number of hours must have been flown in the meantime in order to get full value out of planes before their use is discontinued on account of obsolescence.[55]

The types of equipment used have a great deal to do with maintenance requirements. Thus, at present, in addition to daily inspections and routine maintenance such as greasing, oiling, gassing, cleaning, checking fittings, controls, gasculator screens, radio, lights, battery and generator, and making minor repairs, it is generally considered good practice to conduct checks or examinations of motors every thirty hours. This means testing, cleaning or

54. *M. C. Abrams*, Loc. cit., note 2.

55. Airplane designs have changed so rapidly in the past that an airplane has seldom been usable as modern equipment for longer than three to five years after production. Recent high-speed planes designed for airline use and equipped with air-brakes and slots accentuate this condition at present.

changing spark plugs, checking distributor breaker points, cleaning carburetor screens, checking valves, instruments, and many other parts, besides making necessary repairs. Usually this is accomplished in a few hours. After every 100 hours in the air, the plane and power plant are given a thorough inspection. And the Department of Commerce conducts a comprehensive examination semi-annually as prerequisite to licensing the aircraft.[56] There is also the problem of motor overhauls. Usually, after 300 hours in the air a motor is taken from the plane and replaced by another overhauled or new motor. This operation requires several hours or sometimes a day or two, depending on the number and types of motors. Naturally, a motor overhaul requires special workshop facilities, which may be located at only one point on an airline's system. There is further the matter of etching metal propellers periodically in searching for breaks or cracks. They must be replaced by new ones when the blades are cracked or have become worn so thin as to be likely to break while in the air or to "flutter." The airplane itself does not require much attention except to be kept thoroughly clean, to have all fittings and controls inspected, to have all exposed surfaces painted, doped or otherwise protected, and to have the wings and fuselage recovered occasionally. This will depend on the type of covering, whether metal, plywood or cloth. In the case of planes not used to carry passengers, the interiors require very little maintenance, since they are usually stripped of all upholstery, leaving only a shell with the barest essentials as equipment. Improvements are constantly being made in construction and shop practices so that maintenance may cease to be as predominating a factor as at present. Motors will run longer before needing overhauling, and various other parts will stand up better and longer under operating conditions.

IV. Air Express Organization and Operation

Existing Companies and Methods Used:

(1) *Railway Express Agency*—The first regular air express service of importance in this country was started September 1, 1927, by the Railway Express Agency in conjunction with four companies. National Air Transport, Inc., operated from New York to Chicago, and from Chicago to Dallas; Boeing Air Transport, Inc., from Chicago to San Francisco; Colonial Air Trans-

56. Air Commerce Regulations, effective as amended Jan. 1, 1932, Aeronautics Bull. No. 7, Aero. Branch, Dept. of Commerce, pp. 8, 9.

port, Inc., from Boston to New York; and Western Air Express, Inc., from Salt Lake City to Los Angeles. The air express mileage operated daily by these companies totaled about 4,000.[57]

During several years thereafter the Railway Express Agency contracted with most of the major airlines throughout the country for the handling of air express. At present they are contract agents for United Airlines, Northwest Airways, National Parks Airways, Western Air Express, Kohler Aviation Corporation, and Rapid Air Transport. These lines provide coast to coast, northwest, southwest, Pacific coast, Pacific northwest, and Pacific southwest services. This agency also represents and provides pick-up and delivery services for Pan American Airways express in this country.

Air express is given special treatment by the Railway Express Agency. Special trucks are used to gather up air shipments immediately upon call. These shipments are taken to a designated centrally located warehouse from which they are taken, just prior to plane departures, to the airport and placed aboard planes. In some cities this latter ground carriage is performed by the air carrier and in others by the express company, depending on local conditions. After the arrival of planes immediate deliveries are made.

When the express company accepts a package it collects the charges, if prepaid, and gives the shipper a receipt, labels the shipment and enters it on the copies of the manifest. A separate manifest is made for each destination and a copy is prepared for each carrier which handles the shipment. Spaces on the manifest allow for each company to receipt it when accepting it from another carrier. Deliveries are made either prepaid or C. O. D. In case of C. O. D. shipments charges are collected and remitted to the express company. Parts of all waybills must be signed by the shipper, company agent, and the consignee. The regulation colors of yellow for prepaid and white for collect shipments are used on waybills and labels.

Routing of shipments is usually arranged by the express agency.

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57. Aircraft Year Book, 1928, pp. 75-76. "Among the primary reasons for the organization of National Air Transport, Inc., was the operation of an express service between New York and Chicago. With this end in view a number of conferences were held during the early days of its organization in which Robert E. M. Cowie, president of the American Railway Express Company, and Daniel M. Shaeffer, manager of Mail and Express Traffic, the Pennsylvania Lines, participated. The conferences were primarily for the purposes of arranging a contract for the carriage of express by air whereby the American Railway Express would supply solicitation, pickup and delivery service for the common carrier by air": Aircraft Year Book, 1927, p. 33.

(2) *Airlines Express*—Several companies, however, handled their own air express. Many of these contracted with Western Union Telegraph Company or with Postal Telegraph Company to provide the pick-up and delivery service. In this way they were free to formulate their own charges and merely add to them those of the telegraph company. At least one airline had not only an arrangement with a telegraph company, but also with a bus company for off-line service.[58]

Most of these airlines depend mainly upon local shipments and are consequently not concerned with a great amount of detail in handling them. Many of them do not even have to worry particularly about bookkeeping or interline routing. Both Western Union and Postal Telegraph have provided these services as well as those of making pick-ups and deliveries. The only thing left for the airline is to take the shipments from airport to airport in whatever equipment is available. Some airlines have utilized local trucking companies for making pick-ups and deliveries and collecting charges. Still others, such as Varney Air Service, Inc., provide their own pick-up and delivery services, dealing with the public directly.

The Century Air Lines express service in particular, during the few short months of its existence in the spring of 1932, provided its own pick-ups and deliveries using small trucks. Also, it established a well-organized traffic solicitation force. Its efforts are said to have indicated considerable profit within a short time.

(3) *General Air Express*—The culmination of these earlier experiments is found in the present organization known as General Air Express. It utilizes the traffic and operating methods of the Century Air Express system together with the operation methods of, notably, Transcontinental and Western Air, and the pick-up and delivery facilities of the Postal Telegraph Company. General Air Express (hereafter termed "G. A. E.") began operations on August 1, 1932. Originally it was composed of seven airlines and Postal Telegraph Company, which number, by reason of mergers among lines in the group, is now five: American Airways, Eastern Air Transport, Transcontinental and Western Air, Pennsylvania Airlines, and United States Airways.

G. A. E. is not incorporated. It is, rather, an interline organization, the functional body being a committee composed of representatives of the member companies, with a chairman occupying the position held by a president in a corporation. A smaller ex-

58. Transcontinental and Western Air-Greyhound Bus Company.

ecutive committee decides upon matters of regulations, and operating details for the entire system.

The larger lines of this group employ managers particularly charged with developing the express business for the company. This is not usually true of smaller lines nor of other larger companies. They generally assign air express duties to personnel principally concerned with other matters. The specialized organization for handling air express apparent in G. A. E., however, does not extend much beyond a small traffic group either in the companies themselves or the interline system. Aside from the committees mentioned the only persons working directly under the head of G. A. E. are express traffic solicitors or salesmen organized in groups in the cities served. New York City has the outstanding example of this development at present. The company express manager is a traffic man. His primary duty is to develop business and to supervise handling it.

The actual handling of shipments by G.A.E. is accomplished by Postal Telegraph Company in the pick-up and delivery end and by regular operations personnel on the part of the airlines.

Uniform shipping papers are used throughout the system. The procedure, briefly, is for a Postal Telegraph messenger (with or without a conveyance for carrying packages) to call at the address of the shipper, if pick-up services are requested. The shipment is taken thence to either a concentration point or airport (depending on the locality) and turned over to an airline representative who prepares the routing instructions. When it is accepted from the shipper his signature and that of the company agent are placed on the waybill. When a delivery is made the consignee's signature is also obtained. Copies of the waybill containing all of the above signatures are finally sent to the accounting department of the originating airline to be filed as evidence against possible claims. Deliveries are made by Postal Telegraph Company without extra charge within the free telegraph delivery area of the cities served. When the consignee is located outside this area, notice is given him by telephone or by other means as quickly as possible. Where delivery cannot be made or the consignee refuses to accept, written notice is immediately sent to the consignee, consignor, and originating airline.

Routing of each shipment is listed on the waybill and also on the cargo manifest. A separate manifest is made for every airline destination, and each waybill number, whether prepaid or collect, and name of consignee is entered on it. A copy of the manifest

is made for each airline (different colored paper indicating each airline) which is to handle it and as each receives it from another company it receipts the latter's copy, showing the time and date thereof. When a single interline shipment will pass over two or more sections of one airline a separate manifest copy is made for each section. Actual times of arrivals and departures are placed opposite the routings listed on the manifest.

In making up routing instructions consideration is given primarily to the speed in effecting deliveries. However, where night schedules are involved it is not considered practicable to make deliveries earlier than 8:00 A. M., although earlier deliveries will be made and routings will follow any specific instructions given by the shipper.

Shipments destined to off-line points beyond the airline terminal are delivered to the Railway Express Agency or any other dependable and equally fast transportation agency. In this case the latter signs the waybill in place of the consignee and reforwards the shipment to destination.

Under present conditions of relative undependability of airline schedules due to bad weather conditions, it is inevitable that cancellations will occur which will necessitate the air express shipment being forwarded by other means. G.A.E. provides against this contingency by sending the shipment by railway express, or other means, to the destination—or the closest airline point from which the air passage can be continued. The same procedure is followed in the event of a forced landing. Such shipments are forwarded to the "Airgent" of Postal Telegraph Company in the town of destination, who is given notice by telegraph of the impending arrival of the shipment. Where deliveries are to be made to the consignee at such points, Postal Telegraph takes the shipment from the Railway Express Agency and accomplishes the delivery in the regular manner.

The handling methods devised by the Railway Express Agency and General Air Express are considerably more developed than are those of most other domestic express carriers.

(4) *Pan American Airways*—Pan American Airways, in the international field, has shown much progress in the air express business. It began carrying express in Mexico in July, 1929, and has since extended the service to cover its entire system. It advertises not only at the points served, but in cities throughout the United States, and it has agents in principal cities for accepting and forwarding shipments. Chief among these is the Railway

Express Agency which forwards shipments to the Pan American terminals in Brownsville and Miami, and also provides pick-up and delivery services. Agents at all points in the United States are equipped with the necessary papers so that they can deal directly with shippers, and delay can be avoided at Miami or Brownsville when the shipments are transferred to the Pan American planes. Pan American uses a special waybill adapted to the demands of international traffic. It is made in seven copies including an original, each copy being of a different color. Two copies are for customs, one for the departure station, one for that of destination, one for the shipper, one for the consignee, and one for the company.

Terminal Facilities:

In keeping with their lack of a specialized department or equipment for handling air express, the airlines have not yet provided adequate terminal facilities. Those which operate in conjunction with the Railway Express Agency can take advantage of the warehouse terminals already established. However, these are located near the centers of cities, and not at the airports where they are often badly needed and where they will be indispensable as the volume of traffic grows. A project is afoot for an airport warehouse terminal at Newark, New Jersey, and it is expected that centrally located warehouses will soon be established to handle G.A.E. traffic.

A purely airport-to-airport freight service was operated from New York to St. Louis by Transcontinental and Western Air during several months prior to the organization of G.A.E.[59] However, none other than office and hangar facilities were used for storage. The same is true of other lines which provide such service only occasionally.

Loading and unloading is accomplished with facilities used for air mail. At some airports express, mail, and passengers are loaded and unloaded at the passenger terminals. At others the loading and unloading is taken care of at the hangars. Most shipments consist of small packages and each plane does not carry an exceedingly great number of them. Consequently, the serious need for warehouse terminals has not yet made itself felt.

Handling Facilities:

The handling facilities for air express are so intermingled with those for carrying mail and passengers that it is impossible

59. Cit. note 3.

to consider any of the operating features without also considering the needs and requirements of passengers and mail traffic. We have already pointed out how these factors have influenced schedules and types of equipment. The influence is felt in the actual flying operation, but economic and safety principles are not always the same in each of the three types of air express carriage: express with passengers, express with mail, and express alone.

The first and last main steps in carrying a cargo of express by air before loading and discharge involve several details besides simply taking off and landing the plane. Prior to take-off the pilot must be provided with a weather report, flight clearance, and cargo manifest. Immediately after the take-off, notice of the departure is transmitted to points of destination and sometimes to intermediate places. These messages contain information as to destinations, the number of the plane, name of the pilot, cargo and time departed. Upon arrival at each destination, similar messages are sent to the station of departure. They are transmitted by radio on most of the larger lines, by telegraph, and by use of the Department of Commerce Teletype Weather Reporting System. The latter are called PX (position report) messages.[60]

During the time the pilot has control of the plane in the air he is usually considered to be in complete command of it and the cargo. However, the extent of his authority to act, except in cases of immediate emergency, depends upon the policy of the individual airline. On most lines he can be reached through a radio receiving set on the plane. On many planes transmitting radio equipment permits him to carry on direct telephonic conversations with his own ground stations.

Navigational Facilities: Federal Aid:

The take-off and the landing are merely the evidence of the initial step and the successful completion of a coordination of flying skill and the utilization of navigation aids enroute in quite often a real combat with the elements of weather and darkness.

The principal reason for the establishment of air navigation facilities by the Department of Commerce under the Air Commerce Act,[61] is to provide greater safety in airline operation.[62]

60. General Airway Information, Airways Bull. No. 1, pp. 132-134 (Sept. 1, 1932), Aero. Branch, Dept. of Commerce.

61. Cit. note 26.

62. Viewing these navigation aids as safety precautions, we first consider the principal causes for accidents which have occurred on airlines. Recent statistics cover the first six months in 1932. ("Accident Report on Scheduled Air Transport Operations for the First Six Months of 1932," 4 Air Commerce Bull. No. 5, p. 112, Sept. 1, 1932.) They indicate that of 67 accidents ap-

Other reasons are to enable the airlines to provide a greater variety of services and greater dependability thereof, and to augment the national defense.

Most of the air routes in the United States are marked with raised directional arrows placed ten or fifteen miles apart.[63] and painted with the international colors of orange on a white background.[64] Every 30 to 50 miles an emergency or auxiliary landing field is located and is also appropriately marked.[65] At night these locations are shown by beacon lights revolving about six times per minute. Every group of ten beacon lights is numbered in sequence from one to ten and a different code is flashed by the clear beacon light for each of the ten beacons. Thus, it is only necessary for the pilot to know what group he is flying over to know his location. As each beacon rotates, a red or green blinker light which indicates the direction of the course is seen between the clear flashes. Red flashes are used where there are no landing fields, and green flashes where a landing field is available. A third type is the landmark beacon which serves as an aid to navigation. It is red and, if revolving, turns at the rate of two

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proximately 11% resulted from some personal error of the pilot, 22% from motor failure, 19% from structural failure, 14% from bad airport terrain conditions, 32% from weather, and about 2% was because of darkness.

The pilot error was lower than during any previous similar period. (Civil Aircraft Accidents and Casualties, Aero. Bull. No. 13, pp. 14-16, July 1, 1932.) This indicates greater experience among airline pilots and closer supervision by the airlines. There will always be the human element to consider in accident cases, whether on ground or water or in the air, but the percentage of these occurrences is being reduced.

Motor failure can, in many cases, be directly traced to faulty maintenance on the ground or to improper treatment of the motors in the air. Future developments in motor designs, and greater efficiency in maintenance will eventually almost eliminate motor failure as a reason for airplane accidents on airlines.

For the same reasons we may expect structural failures—which include control failures—to be practically eliminated.

Bad airport conditions can be improved by stricter supervision and the clear marking of surrounding obstructions. When their importance to the public generally is more fully realized, this condition will not interfere with airline operation. Bad terrain conditions can be avoided by greater frequency of airports, particularly by the establishment of "landing strips" (merely a field of proper dimensions suitably indicated as being safe for landing in an emergency) along the air routes, such as are planned by the state aeronautics commission for use in Illinois. Also the recent innovation of wing flaps, or a double opening rudder device, used to slow up high speed ships in landing and to decrease their angles of glide and take-off will make such conditions less hazardous.

Weather conditions accounted for 32% of the accidents in the period named. During this time there were any number of scheduled flights which were cancelled because of unflyable weather—rain, mist, snow, fog, freezing, etc. Most of our navigation facilities are established to help combat this mutual foe of all means of transportation.

The approximate 2% of accidents caused by darkness can be alleviated by the same means used to combat bad weather conditions.

63. "Aeronautical Beacon Lights," 3 Air Commerce Bull. 361 (1932).

64. "New Color Combination and Metal Directional Arrow Adopted for Airways Beacon Lights," 3 Air Commerce Bull. 440 (1932).

65. Loc. cit. note 63, p. 361: "Marked Auxiliary Landing Fields," 3 Air Commerce Bull. 60 (1931); "Intermediate Landing Field Personnel Render Important Service to Airmen," 3 Air Commerce Bull. 55 (1931); "Use of Department of Commerce Intermediate Landing Fields Increased in 1930," 2 Air Commerce Bull. 465 (1931).

turns per minute, or six turns where it marks a hazardous area.[66] Symbols denoting these various markings are printed on maps used by the pilots.[67]

These facilities are supplemented by radio devices which enable a pilot to fly when conditions of visibility are such that he cannot see the markers or beacons. Radio range beacons have been established along the principal air routes at intervals of approximately 200 miles. Each beacon has an effective range of about 100 miles. Radio range beacons of the aural type transmit two signals broken intermittently by station identification signals. These two signals are the letters "A," indicated by dot-dash, in international radio sound code, and "N," dash-dot, and are heard by the pilot through his ear-phones. Along the line of the proper course between stations these signals merge into a steady hum or dash. If the pilot should fly to one side of his course one signal will predominate to a certain degree over the strength of the other. Usually, when off the course as much as 30 degrees only one signal is heard. Fixed rules indicate the side on which either signal is transmitted.[68]

A visual type radio range beacon operates in much the same manner, except that its signals are transmitted on certain radio frequencies,[69] which vibrate two reeds contained in a receiving instrument on the instrument board of the plane.[70]

In flying the radio ranges pilots have been cautioned to fly to the right of the courses to avoid the possibility of running into planes approaching from the other direction.[71] This presents a

66. Loc. cit. note 63, pp. 361-365: "Color Characteristics and Operation of Private Aeronautical Lights Located at Airports," 4 Air Commerce Bull. 49 (1932). See also: "Instrument to Turn on Airway Lights at Nightfall and on Dark Days Developed by Aeronautics Board," 3 Air Commerce Bull. 413 (1932).

67. Loc. cit. note 63, pp. 361, 364-365. See also: "Sectional Airway Maps of the United States," 2 Air Commerce Bull. 357 (1931).

68. General Airway Information, op. cit. note 60, pp. 77-84: "Flying the Radio Ranges," 4 Air Commerce Bull. 135 (1932); "Radio and the Nation's Airways," 1 Air Commerce Bull. 1 (Nov. 15, 1929); "Aircraft Radio Development," 1 Air Commerce Bull. 5 (Aug. 15, 1929); "Radio Range Beacon Service Now Available on Entire Transcontinental Airway between San Francisco and New York," 2 Air Commerce Bull. 437 (1931).

69. 65 and 86⅔, and 75 and 100 cycles: "Flying the Radio Ranges," loc. cit. note 68, p. 139.

70. General Airway Information, op. cit. note 60, p. 84: "Flying the Radio Ranges," loc. cit. note 68, pp. 139-140; "Radio and the Nation's Airways," loc. cit. note 68; "Aircraft Radio Development," loc. cit. note 68; "Status of Visual Type Radio Range Beacon," 1 Air Commerce Bull. 19 (Jan. 2, 1930); "Visual Radio Range Beacon Installed at Bellefonte, Pa., for Service Trials on Cleveland-New York Airway," 2 Air Commerce Bull. 179 (1930); "Los Angeles-Kansas City Airways to be Equipped with Visual Radio Range Beacon Service," 2 Air Commerce Bull. 584 (1931); "Pointer-Type Course Indicator for Use with Visual Type Radio Range Beacon Developed," 2 Air Commerce Bull. 526 (1931); "Automatic Volume Control for Visual Radio Range Beacons Developed," 2 Air Commerce Bull. 272 (1930); "Deviometer Affords Use of Radiobeacons for Courses Not Along Regular Beacon Paths," 2 Air Commerce Bulletin 201 (1930).

71. "Flying the Radio Ranges," loc. cit. note 68, p. 140; "Guggenheim Fund Reports Solution of Blind Flying Problem," 1 Air Commerce Bull. 15 (Oct. 15, 1929).

serious difficulty for the future when traffic along the airways becomes congested and planes of high speed, flying blind, may overtake and collide with slower planes flying in the same direction and at the same altitudes.

Radio marker beacons are installed at intervals along the ranges to indicate meeting points of adjacent radio range courses. They are also used at other points to indicate landing fields or topographical changes. Their range is not over five miles. Radio transmitters are available at these stations to communicate with passing aircraft for the purpose of aiding an emergency landing and giving emergency weather information. Except when used for voice transmission these markers operate continuously on assigned frequencies. Reception of communications from the planes is also possible at these points,[72]

Further use for radio is found in the hourly transmission of weather reports to pilots in the air,[73] the maintenance of ground to plane communication over long distances, and traffic control at principal airports[74] whereby the order of landing is transmitted to planes in the air or instructions are given to enable the planes to land in bad weather when visibility is poor. Attempts are being made to develop radio control so that a pilot can land his plane under conditions of zero visibility.[75] Also radio direction finders have been developed for planes.[76]

Pilots or other persons who operate radio transmitters used by airlines on planes or on the ground are required by the Radio Division of the Department of Commerce to possess special aeronautical radio licenses obtainable upon passing an examination.[77]

In order to assist airlines to operate safely and efficiently during inclement weather, an elaborate organization has been set up for gathering and disseminating weather information for those

72. General Airway Information, op. cit. note 60, p. 85, "Radio Marker Beacon Operation," 3 Air Commerce Bull. 507 (1932).

73. "New Procedure Governing Airway Weather Broadcasts," 4 Air Commerce Bull. 13 (1932).

74. Report of Committee on Airport Traffic Control (Feb. 15, 1933), Aero. Branch, U. S. Dept. of Commerce, pp. 18-20; "Preliminary Report of Committee on Airport Traffic Control," 2 Air Commerce Bull. 299, 301 (1930); "Air Traffic Control Systems," 1 Air Commerce Bull. 11 (Feb. 15, 1930); *A. P. Taliaferro*, "Traffic Control—An Approaching Problem," 12 Airway Age 476 (1931).

75. *M. F. Eddy*, Aircraft Radio (1931), pp. 18-20; "A Radio System for Blind Landing of Aircraft," 2 Air Commerce Bull. 79 (1930); "Guggenheim Fund Reports Solution of Blind Flying Problem," Loc. cit., note 71, p. 15.

W. Neal, "Plane Lands by Radio," Atlanta Journal, Feb. 26, 1933: Too dark and fog too thick to see airport lights at Candler Field, Atlanta, Georgia, so pilot Duke Ledbetter traced radio beam to beginning and by correctly estimating the position of the radio aerial landed safely.

76. "An Airplane Radio Direction Finder," 3 Air Commerce Bull. 433 (1932).

77. Federal Radio Commission, Radio Act of 1927. See *M. F. Eddy*, op. cit., note 75, p. 239 et seq.

who use the airways. Weather reporting stations are located approximately 200 miles apart both on and off the principal airways. Many of them paralleling the air routes are designated in groups and each station in a group reports in sequence, by use of the Department of Commerce teletype system, the condition of the weather at its location. This report includes the general weather condition, ceiling, miles visibility, direction and strength of the surface wind, temperature, dew point, barometric pressure, and any unusual conditions not covered thereby. In addition, certain stations report periodically the directions and strengths of the winds at elevations from the surface and every 1000 feet from 2000 to 8000 feet or higher.

Before an airline pilot takes off he must have this weather information in writing, the reports not to be over an hour old, covering the course he is to fly to his next stop. While in the air, stations on the radio range which he is following break into the directional beam transmission and broadcast weather reports at a prescribed period every hour, and every thirty minutes past the hour their own local conditions. By knowing the broadcast frequencies of the various transmitting stations and the times they are scheduled to broadcast, a pilot can tune in on more than one during an hour. In cases of sudden changes in the weather special broadcasts are transmitted.[78]

The teletype system makes available another form of weather report which appears in the form of a map transmitted by master map stations to certain other stations every four hours. The figures are printed on a map in the teletypewriter and the receiving operator draws in the isobars and wind-shift lines free-hand.[79] These maps are available for use by the airline operators.

By interpreting the weather reports the pilot is able to foresee the possibilities for safe flight over his proposed route, and by the reception of weather broadcasts from ground stations and sometimes from other planes while in flight he can check against his judgment.

78. General Airway Information, op. cit., note 60, pp. 94, 122. For further information and authorities see the following: "Collection of Weather Information by Teletype," 1 Air Commerce Bull. 10 (Mar. 15, 1930); "Radio Supplement to Automatic Telegraph-Typewriter System Being Developed," 2 Air Commerce Bull. 620 (1931); "New Procedure Governing Airway Weather Broadcasts," op. cit., note 73, pp. 13-15; "New System of Schedules for Broadcast of Airways Weather Information Now in Effect," 3 Air Commerce Bull. 438 (1932); "Procedure Dealing With the Radiobroadcast of Weather Reports Revised," 1 Air Commerce Bull. 5 (June 15, 1930); "Interpretations

79. General Airway Information, op. cit., note 60, pp. 124-127; "Teletypewriter Weather Map Service Now in Operation," 4 Air Commerce Bull. 290 (1932); "Teletypewriter Transmission of Weather Maps," 4 Air Commerce Bull. 83 (1932); "Weather Maps to Be Transmitted by Automatic Telegraph Typewriter Circuits Operated by Aeronautics Branch," 3 Air Commerce Bull. 58 (1931).

There are, however, certain conditions which render additional equipment necessary in order to detect and avoid the consequent danger. Temperature and dew point readings indicate when moisture in the air is likely to condense and form ice, but it is not easy to tell when this ice actually begins to form on a plane while in flight. Its characteristics are that it clings to protruding edges of the plane and on the propeller so as to greatly increase the weight, and also forms thickly along the leading edges of the wings. The effect of this wing formation is to elongate the contour of the wing section and thus change the camber, or wing curvature, so that it will not produce as much lift as was originally contemplated in the design. This is likely to force the plane to come down and strike the ground in the normal attitude of flight and at high speed—a highly dangerous situation. To avoid this condition, "ice-indicators" have been developed, and "de-icers" have been installed on some planes, operating mechanically to break the ice loose from the leading edge of the wings.[80]

With weather conditions uniformly tabulated for him, a pilot can interpret them, and at the same time devote his attention not only to his engine and airplane instruments, but also to the observation of the various aids to navigation already mentioned.

Federal Control: Pilot Qualifications:

In furtherance of the utilization of navigation facilities the Department of Commerce initiated a new requirement for interstate airline pilots effective January 1, 1933. Under this rule a pilot must not only hold a transport license entitling him to fly planes of the class and weight which he operates, but he must have had at least 1200 solo flying hours within the last 8 years, of which 500 hours must have been cross-country, 75 hours at night (50% of which were cross-country over lighted airways), and 15 hours of blind flying instruction. Furthermore, he must pass a practical flight test in blind flying, given by a Department of Commerce inspector.[81] This ability to fly blind includes the proper utilization of the radio range signals as well as the manipulation

80. *C. H. Biddlecombe*, "Eliminating the Ice Hazard," 7 Aviation Engineering 7, 33 (Sept. 1932); "Ice-Warning Thermometers for Airplanes," 1 Air Commerce Bull. 7 (Mar. 1, 1930).

81. Federal Regulation, 4 JOURNAL OF AIR LAW 86 (1933); Air Commerce Regulations, Amendment No. 3 of 1932, 1932 U. S. Av. R. 286; "Scheduled Air Transport Rating Included Among Amendments to Regulations," 3 Air Commerce Bull. 555 (1932); "Scheduled Passenger Airline Conference," 3 Air Commerce Bull. 87 (1932). See also: "Pilots Carrying Paid Passengers Required to Have Special Authority," 1 Air Commerce Bull. 9 (Feb. 15, 1930).

of the plane solely by the interpretation of instruments under conditions of zero visibility.[82]

This Scheduled Air Transport rating for pilots, however, applies only to those airlines operating under a certificate of authority from the department of Commerce to carry passengers.[83] And the requirements that transport pilots be rated according to type and weight of planes which they are qualified to fly applies only to the carriage of passengers for hire.[84] Consequently, there is no special requirement for pilots carrying express. Any transport, limited commercial or industrial pilot may navigate an interstate freight line under present rules.[85]

However, practice has shown that pilots of great skill and experience are required for the carriage of air mail, in order to set a performance record as nearly perfect as possible. Competition for express business may bring about this same requirement if regulations and laws do not.

At present, we can expect to find air express carried in mail or passenger planes manned by highly trained personnel who meet the license requirements for the carriage of passengers in interstate commerce.

Federal Control: Airline Operation Regulation:

As long as express is transported with the mail or by itself with no passengers there are practically no regulatory restrictions, aside from those governing ordinary interstate flights by private aircraft. Although the minimum safe altitude over open country is fixed at 500 feet, it may be deviated from when weather or other unavoidable conditions make it necessary.[86] However, where passengers are carried, this minimum altitude rule cannot be deviated from except in the case of airlines operating under Certificates of Authority when terrain and local weather conditions make it

82. "Flight Test for Scheduled Air Transport Rating," 4 Air Commerce Bull. 264 (1932); "Airways Radio Stations Contribute to Safety and Reliability of Aircraft Operations," 4 Air Commerce Bull. 361 (1933).

83. Amendments to Air Commerce Regulations Governing Scheduled Operation by Interstate Passenger Air Transport Services, Effective Oct. 1, 1931, 1931 U. S. Av. R. 250; Air Commerce Regulations Governing Scheduled Operation of Interstate Passenger Air Transport Services, Effective Midnight, May 15, 1930, 1930 U. S. Av. R. 325.

84. "Pilots Carrying Paid Passengers Required to have Special Authority," Loc. cit., note 81, pp. 9-10.

85. Air Commerce Regulations, 1928, Sec. 47, A, B, C, 1928 U. S. Av. R. 391.

86. Amendment to Air Commerce Regulations, Effective Midnight Dec. 31, 1930. "Sec. 79. *Deviation from Air Traffic Rules.* The air traffic rules may be deviated from when special circumstances render a departure necessary to avoid immediate danger or when such departure is required because of stress of weather conditions or other unavoidable causes: provided, however, that aircraft carrying passengers for hire shall not deviate from the air traffic rules pertaining to minimum altitudes of flight because of stress of weather conditions": 1930 U. S. Av. R. 323. See also: "New Amendment to Air Commerce Regulations," 1 Air Commerce Bull. 6 (Feb. 15, 1930).

necessary, provided the pilots involved possess Scheduled Air Transport ratings, and provided that:

"1. There is definite indication of favorable or improving weather conditions ahead.

"2. There is sufficient ceiling to permit safe maneuvering of the airplane without danger of striking any object or objects on the ground, and that there is a visibility of at least two miles in daylight, and from beacon light to beacon light during hours of darkness.

"3. In the hours of darkness, directional radio is in operation over the route and the plane is equipped for the reception of its signals as well as weather broadcasts.

"4. The pilot in his own judgment believes the flight can be accomplished with safety.

"5. Permission of the operations manager or his properly designated representative is secured after such manager or his representative has been supplied with full information on weather conditions encountered or to be encountered. Records of such authority shall be kept in the form of a log of the radio conversation or signed clearance sheets."[87]

Passenger airliners may be operated over fog or clouds when necessary (but not for protracted periods) under no worse conditions than the following:

"1. When equipped with directional radio and weather broadcast receivers airplanes are permitted to proceed over the top or through solid fog and clouds, provided that:

"(a) At the time of take-off there is at the point of departure sufficient ceiling and visibility to permit the airplane to be safely maneuvered and landed without danger of striking any object or objects on the ground, and the point of intended landing is clear, and further, provided that:

"(b) Within the fuel range of the airplane, exclusive of the required 35% reserve, there is an airport or intermediate field other than the point of intended landing which is clear, to which the pilot may be directed. (For the purpose of this regulation, 'clear' is interpreted as meaning not less than 1,500 feet of ceiling and two miles of visibility.)

"2. When equipped with directional radio and weather broadcast receivers, and while maintaining a two-way radio communication with ground stations, airplanes may be operated over the top or through solid fog and clouds, provided that:

"(a) There is, at the time of take-off, sufficient ceiling and visibility at both the intended point of landing and the point of departure to permit the airplane to be safely maneuvered and landed without striking any object or objects on the ground. (This provision contemplates the establishment of certain limitations affecting ceiling and visibility at various terminals.) Further provided that:

87. Amendments to the Interpretations of the Air Commerce Regulations Governing Scheduled Operation of Interstate Passenger Air Transport Service (Bull. No. 7-E), 4 JOURNAL OF AIR LAW 89 (1933); "Interpretations for Airline Regulations," 4 Air Commerce Bull. 177 (1932); "Scheduled Passenger Air-Line Conference," 3 Air Commerce Bull. 87 (1931).

"(b) Within the fuel range of the airplane, exclusive of the required 35% reserve, there is an airport or intermediate field where weather conditions are favorable, to which the pilot may be directed, further provided that:

"(c) Specific permission of the operations manager or his properly designated representative is obtained prior to starting through or over the top. Records of such authority in the form of logs of the radio conversation or signed clearance sheets shall be kept in all cases, and further provided that:

"(d) The pilot in his own judgment believes the flight can be accomplished with safety."[88]

Under the above conditions we may expect all airline operations to reach a high degree of safety. A question which arises in connection with the carriage of passengers is whether or not an express messenger would be considered a passenger within the above requirements. If he were an employee of the airline he would seem to fall outside the classification of passengers for hire. At the same time, if he is employed by an Express Company which is apart from the airline and pays the airline for its accommodations, a different result is prima facie apparent. However, when we consider that any express company which employs messengers to accompany shipments will probably be owned directly or indirectly by the airlines which they patronize, in the same manner in which the railway express companies were and are owned by the railroads,[89] the first result seems the most feasible.[90]

V. Air Express Rates

Factors Affecting the Rates:

(1) *Decreasing Costs*—Airline operation offers another illustration of a business subject to the law of decreasing costs—a business in which the cost of operation grows less rapidly than the volume of business done. Certain costs are fixed and, of the

88. Amendments to the Interpretations of the Air Commerce Regulations Governing Scheduled Operation of Interstate Passenger Air Transport Service, Aero. Bull. No. 7-E, loc. cit., note 87, pp. 88-89, 1932 U. S. Av. R. 292; "Interpretations for Air Line Regulations," Loc. cit., note 87, pp. 177, 178-179; "Scheduled Passenger Air-Line Conference," Loc. cit., note 87, pp. 87, 88-89.

89. *W. J. Jackman,* Express Service and Water Transportation (1912), pp. 55-63.

90. In a letter, Feb. 21, 1933, Mr. Richard S. Paulett, Chief, Enforcement Section, Aeronautics Branch, Department of Commerce, answers these questions as follows: "It would seem that, if the fare of the express messenger is paid by the express company whether or not the messenger is an employee of the airline, in such instance the messenger might technically be deemed to be a passenger and if the service was run on schedule, it might possibly be declared to be a scheduled passenger carrying operation.

"I believe that, where messengers are carried on scheduled express services and the express line is not owned by the airline but only supplies the planes, there would more than likely be an agreement between the airline and the express company for the free carriage of messengers or other employees necessary to handle the express matter."

operating costs, some are constant and some variable. Each item carried for compensation, which is added to existing traffic, costs relatively less to transport. Net returns will increase more than proportionately with an expansion of traffic. Hence an airline which derives a steady income from mail and passengers can afford to offer an air express service to the public at rates which will yield only a slight profit in excess of the handling and carrying costs, and, in the ultimate accounting, aid in showing a substantial profit for the combined operations.

(2) *Joint Costs*—The airlines also operate under conditions of joint costs. Thus, they offer a variety of services (including carriage of mail, passengers, and express) which in the aggregate cost a certain sum—the total of fixed charges and operating expenses, but it is quite impossible to determine what any single part of these services will cost, or what one service will cost. The apportionment is determined by the relative intensity of demand for each of the joint services. Thus, air mail revenue now bears the greatest burden of supporting an airline's fixed costs, it being subject to some reduction due to the increasing volume of passenger traffic. Air express, on the other hand, supplies scarcely 1% to 5% of the revenue and, consequently, is dependent on the other services for its own existence. When air express revenue becomes greater in proportion to that derived from mail and passengers, then changes may be expected in the level of the latter charges.

(3) *Influence of Mail and Passenger Revenues*—When the commercial airlines were first organized in 1926, the purpose was to carry only one commodity—air mail. The federal government had been carrying air mail since 1918, but, by 1926, felt that the carriage by private contractors would provide a more extensive and, possibly, less expensive service. The value of an air network to establish lines of communication for national defense was also considered.

The first mail rates paid by the government to the operators were fairly high and had to be so since they provided the sole source of income. Subsequently, these rates were lowered slightly due to changing conditions. In 1930, the Watres Act[91] practically compelled the air mail carriers to provide space for passengers on the mail planes. This resulted in an increased income to the contractors and paved the way for further reductions in mail rate

91. Cit. note 53. "Air Mail: The Watres Act in Its Workings," 31 Aviation 106 (1932).

payments. The competitive bidding for air mail contracts also aided in the reduction of payments.

The additional net income derived from passenger traffic of the air mail lines illustrates the application of the principle of decreasing costs, already mentioned. An extension of this principle shows clearly the reason that air express is considered of importance—secondary to the passenger business. Air express is now being carried by these mail lines mainly because the airlines have found that they cannot keep their equipment filled with mail or passengers. Space is left in the baggage and mail compartments (and sometimes in the passenger section) where small express packages can be carried without interfering with the rest of the cargo. At the same time, it provides an additional income (above its separate costs) with which to help off-set the costs of the other, and better-paying, services. As the volume of air express increases, the importance of the express income is becoming more clearly recognized and the airlines are specifying that larger, and more appropriately fitted, express compartments be included in their newer planes.

Another reason for developing the air express business is to be found in the recent reduction in the volume of air mail carried (and consequent loss of income)—due partly to the increase in air mail postage rates to eight and thirteen cents.

Originally, air passenger rates were fairly high—too high to be productive of great revenue. Besides, there were many difficulties to be overcome in addition to charges. It was necessary to educate the public to the safety of air travel, to develop a regular and dependable schedule of operations, and to offer rates that would be acceptable during a period of economic depression. The increased volume of passenger business now so definitely established cannot fail to have an influence upon the rates for all air carrier services.[92]

We have seen that air express is dependent upon passenger and mail schedules and the consequent maintenance required thereby for its own carriage. This often has the effect of preventing fast through shipments when more than one line is involved. The charges are not always certain on a different line. And sometimes it is necessary to transfer shipments from one airport to another many miles away at a junction point of two lines. The Post Office Department, however, requires air mail carriers to use the same

92. *M. W. Watkins*, "Air Transport Rate-Making," 3 Air Law Rev. 127 (1932).

airports. All of these factors tend to produce a lack of uniformity which detracts from the value of air express to the shipper. This is being overcome to some extent, however, with the formation of General Air Express and by its competitor the Railway Express Agency.

Other factors which influence rates are the use of regular passenger and mail planes for carrying express, and the lack of specialized personnel or warehouse facilities for handling it. These considerations have a tendency to keep the rates up. One reason already mentioned is that the air carrier is not particularly interested in air express, but devotes most of its efforts to carrying passengers or mail. The limited space aboard a passenger or mail plane limits the amount of express which can be carried as well as it restricts the size of individual shipments. The lack of specialized personnel for handling and the lack of warehouse facilities also affect the volume which can be satisfactorily handled. And they increase the risk to which the carrier is subject due to loss or damage to shipments.

(4) *Operating Difficulties*—The actual airline operations present a considerable risk to the carrier of goods under present conditions. The aids to navigation and other facilities for affording safe passage by air have been discussed. And it is known from accident statistics that occasional crashes, particularly in the carriage of air mail, are to be expected. The danger to purely express planes from crashes will be tempered considerably by the financial risk involved, not only of liability to the shippers but to the owners of the equipment. It is well-known that crashes very often result in the total destruction of the plane and the cargo. Unquestionably, *airline* express companies are common carriers[93] and hence liable without fault, except for those risks excepted by law. This compels the carrier to pass on to the shipper charges sufficient to cover his own estimated liability and to cover the cost of insurance, particularly on shipments of great value.

The same operating factors, however, also work to force rates down as a competitive measure against railway express. Weather conditions frequently compel the cancellation of flights and, sometimes, cause forced landings enroute. These conditions tend either to prevent air shipments entirely or to slow them up to such an extent as to give air express an element of unreliability. Whatever the reason, it will be reflected in the rate that can be charged for the service.

93. *F. E. Quindry*, "Airline Passenger Discrimination," 3 JOURNAL OF AIR LAW 479, 480 (1932).

(5) *Private Carrier Competition*—Practically the only competition which the airline need fear is that a private plane owner may contract specially to carry a certain shipment. The possibility of this is usually remote, since most private owners demand very high prices for special trips. This is due partly to the operating cost necessary to return the plane to its base, partly to its high original cost, and partly because private plane operators have been accustomed to receiving abnormally high returns during better times. Even if the private plane owner should offer serious competition in individual cases, it is doubtful if the airline would change its rates. It carries air express mainly to fill up space not occupied by passenger or mail. It is to be noted, however, that this condition is rapidly changing, and some airlines are extending their efforts to reach the express shipper at the same time that they go after the prospective air passenger. This changing condition has produced a considerable reduction in air express rates, but they are still too high to attract regular shipments of many types of high class goods.[94]

94.

Company	Air or Rail	Yr.	Chicago—New York 1 lb.	5 lb.	10 lb.	70 lb.	100 lb.	200 lb.	New York—Los Angeles 1 lb.	5 lb.	10 lb.	70 lb.	100 lb.	200 lb.
Railway Exp. Agy.(a)	A	1927	$1.00	$5.00	$10.00	$70.00	$100.00	$200.00	$2.60	$13.00	$26.00	$182.00	$260.00	$520.00
T.W.A.-Greyhound Bus(b)	A	1932	1.45	3.20	5.70	32.20	40.70	80.70	2.25	6.95	13.20	77.70	100.70	200.70
General Air Express(c)	A	1933	1.25	2.30	3.80	22.50	31.75	62.50	1.78	5.70	10.60	70.10	99.75	198.50
Railway Exp. Agy.(d)	A	1933	1.25	2.04	3.44	21.00	30.00	60.00	1.80	5.64	10.44	70.00	100.00	200.00
Railway Ex. Agy.(e)	R	1933	.38	.52	.69	2.76	3.80	7.60	.47	.95	1.54	8.71	12.30	24.60
Parcel Post(f)	R	1933	.11	.33	.59	3.77	....	....	.15	.59	1.14	7.74	.....	.....

(a) Based on charges per ¼ pound (not more than 50 cu. in. per ¼ pound). Value not to exceed $50.00 for packages weighing less than 100 pounds, and 50c per pound actual weight over 100 pounds: Aircraft Year Book, 1928, p. 455.

(b) Rate is per pound or per 200 cubic inches if actual weight is less than one pound per 200 cu. in. No single package weighing over 150 pounds or 35"x19"x63" is accepted without special arrangements. Packages valued in excess of $5,000 not accepted unless arranged for. Liability limited to $50.00 for less than 100 pounds, and 50c per pound over 100 pounds. Cargo full coverage insurance available to shipper at rate of 35c per $100.00 within zones, 50c between adjacent zones, and 65c between zones 1 and 3: Joint Air Bus Tariff No. 1, effective Feb. 8, 1932.

(c) Rates based on 200 cu. in. per pound. Lot shipments permitted. Single packages not to exceed 200 pounds or measuring not more than 150 inches combined length and girth only accepted except by special arrangement. Liability limited to $50 per shipment with charge of 10c per $100.00 declared excess value. Shippers express insurance available at rate of 15c per $100.00 excess declared value besides carrier's charges: Interline Tariff, effective Aug. 8, 1932.

(d) Rates based on 100 cu. in, per ½ pound. Packages weighing in excess of 200 pounds or measuring more than 106 inches length and girth not accepted without special arrangement. Value limited to $50 for 100 pounds or 50c per pound if over 100 pounds. 15c per $100 excess declared value charged. Fractional weights over pound of 3 ounces or less disregarded, 4 to 12 ounces count as ½ pound, and over 12 ounces count as full pound: Air Express Tariff No. 4, effective Dec. 1, 1932.

(e) First class rates based on actual weight. Aggregate weights of several shipments permitted if packages do not average less than ten pounds. Value limited to $50 for 100 pounds and 50c per pound in excess thereof. 10c per $100 charged for excess declared value. Where shipments weigh over 1,100 pounds and are valued over $550 the charge for excess value is 25c per $100 between points where rate is not over $1.00 per 100 pounds, 30c where it is $1.00 to $3.00, 35c where it is $3.00 to $5.00, 40c where it is $5.00 to $8.00, and 50c where it exceeds $8.00. Value of certain live stock specifically limited. Special rates apply to coins, currency, bullion and securities: Official Express Classification, No. 31, effective Mar. 20, 1930.

(f) No shipments accepted which weigh over 70 pounds or measure more than 100 inches combined length and girth. Parcels measuring more than 84 inches are charged for minimum of ten pounds. Special delivery charges for two pounds or less is 10c, for 2 to 10 pounds, 25c, and over 10 pounds, 35c. Insurance charges are 5c for not exceeding $5.00 valuation, 10c for $25.00, 15c for $50.00, 25c for $100.00, 30c for $150.00, and 35c for value not to exceed $200.00.

(6) *Air Express Rate Limitations*—Although express rates can be made relatively low, it is doubtful that they will fall below those of first class railway express rates. One simple reason for this is that the railways can, under present conditions, lower their own rates sufficiently to retain the traffic which might otherwise be carried by air. Another reason is that the service rendered is superior to that furnished by the railroads.

(7) *Reasonableness* as a basis for maximum air express rates has not entered into the question from the point of view of public benefit, but is being reached by experiment which, with competition, tends to reduce the rates to such low levels as to attract greater volumes and different types of goods.

(8) *Peculiarities of Air Express*—We now find air express in a position to follow somewhat the same steps as were followed by the passenger business. However, a few of the elements are missing and some are added. The idea of fear is not present when a shipper intrusts a package to an airline, unless it is so precious that its loss, due to a crash, may be of irreparable injury to him. Usually, his main concern is cost and a correspondingly superior service to compensate for charges additional to those made by railroads. Furthermore, from the point of view of the airline, the additional costs in transporting express are less than those in transporting passengers. The reason is that express packages can be placed in any available space and in any kind of a plane, whereas each passenger must be given personal attention, a comfortable seat, plenty of leg-room, and light. Moreover, liability can usually be ascertained in advance on air express shipments, but there is no limit to the liability to which the airline subjects itself when it carries a passenger.[95]

(9) *Air Freight*—Another factor previously mentioned will also have profound influence on air express rates. Most of the larger airlines, in their competition for passenger business, are announcing that shortly they will use planes of speeds ranging from 50 to 75 miles per hour faster than those now in use. What will become of the passenger planes being used at present? Probably some will be still used for passenger service on short lines where competition is not so acutely felt. However, there are few passenger planes now in use which are not obsolete in the light of developments in design. Many of these planes have been entirely written off or depreciated, and the rest partially so. Consequently,

95. *G. W. Ball*, "Compulsory Aviation Insurance," 4 JOURNAL OF AIR LAW 52 (1933).

the carriage of either air express or air freight offers an admirable opportunity to obtain further use from this equipment. Seats and other passenger facilities can be stripped from the cabins to make room for high pay loads.

These planes can be used for carrying express or freight at a very low cost which need not greatly exceed that of maintenance and actual flying. It is expected that they will make available a slow air transport service from airport to airport, from central terminal to terminal, or a service similar to railroad store-door delivery at low enough rates to attract medium class commodities in great bulk.

Classification:

Air express rates, at present, apply equally to all classes of goods, since only emergency or higher class shipments are now expected. Also, the available space is necessarily limited in an airplane, so that it would not pay to carry more goods at a lower cost in many cases. However, this applies only if the higher class of goods occupies all of the space. If it does not, then it seems logical to attract lower classes of commodities by offering slightly lower rates to them. This is, of course, the rate basis for railway express which classifies shipments in three classes. Articles in the third class are given commodity rates which have certain relationships to the first or second class rates. First class rates apply to all articles not classified elsewhere. And second class rates apply to articles of food and drink and other articles so listed. These classifications are uniform throughout the United States.[96] The system is similar to the railroad freight classifications, except that the latter are not uniform but are listed differently in certain defined territories. Nor do they confine themselves to only three classifications each.

The classification principle is applicable, to some extent, in air express when defined to mean movements at passenger plane speed, but it is practically essential that it be considered in operating planes carrying only express or air freight.

An example of what is meant by this air classification is found in the availability of shipments by air of fresh fruits and vegetables from the southern to the northern markets.[97] Sufficient quantities are available to make a fair profit for the carrier, *provided* it does

96. Official Express Classification No. 31 (effective Mar. 20, 1930), p. 17; *E. S. Ketchum*, op. cit., note 20, pp. 249-323.
97. *F. Haag, Jr.*, op. cit., note 1, p. 11.

not have to fly its plane back to the base *empty* or nearly so. In order to be able to carry the fresh fruits and vegetables, the carrier will gladly accept a lower class commodity for a return shipment if this will pay it enough to make the gross income for the entire round trip exceed the gross expenses. Thus it will be possible to offer commodity rates actually lower than carrying costs and with no consideration for the company's fixed costs. The condition is illustrated by the previously mentioned shipments between Boston and New York where those from New York were 40% higher in volume than from Boston.[98] It indicates the necessity for classifying commodities so as to attract other types of goods at lower than first class rates and thus fill up available space in returning planes.

The range of this classification will depend upon the kind of commodities which can be attracted to air express and the extent to which air transportation can develop new markets. These new markets are available for shipments of luxury foods such as frozen foods, fresh fish, and delicacies not now obtainable in some communities. Besides this, it brings territory now unattainable to some industries within the scope of their effective sales. The immediate result of this is to permit reduced inventories, hence lower taxes, and a more rapid turnover of goods. The effect on the air carrier is to give it a greater number of air shipments in one direction. In order to fill up its planes for the return trip, it will offer low enough rates to attract commodities which will be of use to people at the other end of its line.

Computation of Rates:

The mechanics of computing air express rates are not complex under present arrangements. The rates are usually a certain amount per mile with a graduated charge for more than one pound.[99] The greatest difficulty is found in accounting for pick-up and delivery charges. Oddly enough, the charges for carrying by air over distances amounting to several hundred miles are less than the cost of picking up parcels and delivering them. One reason, of course, is that airports are usually several miles from towns. A basic charge including pick-up and delivery is therefore made by both Railway Express Agency and General Air Express of $1.00

98. Ibid., p. 7.
99. Railway Express Agency air express rates are based on a charge of 1c per ½ pound per 50 miles plus a package handling charge of 80c for one pound and decreasing at the rate of 2c per ½ pound until it disappears at 21 pounds: Letter from George E. Lee, Vice-President, Railway Express Agency, Mar. 1, 1933.

and $1.25 respectively for air shipments. Such basic charges are in effect for air express where pick-up and delivery services are provided by other companies. Usually the latter charge is graduated at a certain amount per pound over five pounds. Many air express carriers will permit lower charges to regular shippers where no services aside from the air carriage are desired. An airport to airport service with such lower rates is now being operated by Varney Air Service between Oakland, San Francisco and Sacramento. A similar low rate service was operated from New York to St. Louis by Transcontinental and Western Air prior to the organization of General Air Express.[100]

The basis for making charges on airlines for express is somewhat different from that used by railway express. The difference is due partly to the fact that railway express touches thousands of cities while air express touches only a little over a hundred. Also, the railway system has been brought about by the Interstate Commerce Commission. A revision of express rates and classifications was found to be necessary mainly because there was no uniformity in rates, there were no published tariffs, and only an experienced person could understand those that were available in printed form. The ordinary express shipper was the small shipper who did not possess the necessary technical knowledge. Therefore a simplification was brought about to protect the public.[101]

Briefly, the railway express system is based on blocks and zones. The country is divided into five zones roughly paralleling the freight zones of the railroad. In some the basic distance rates and terminal charges are different from others, according to the varying marketing conditions and difficulties of transportation. Super-imposed over these zones is a gridiron of blocks, covering the entire United States. Each block covers an area of approximately fifty miles square, the boundaries of which parallel the meridians of longitude and the parallels of latitude. The charges are graduated according to the number of blocks between points and according to the number of pounds weight, with fixed charges being added for the use of terminal facilities. For charges between points within blocks or to adjacent blocks a sub-block system is used, each block being divided into 16 sub-blocks.[102]

The Parcel Post system, with which air express comes into competition, has a system somewhat different from that of the

100. Cit. note 3.

101. *E. S. Ketchum*, op. cit., note 20, pp. 115-141.

102. In re Express Rates, Practices, Accounts and Revenues, 24 I. C. C. Rep. 380 (1912); *E. S. Ketchum*, op. cit., note 20, pp. 213-246.

railway express. It divides the country into eight zones of 50, 150, 300, 600, 1,000, 1,400, and 1,800 miles radius from each of 30 minutes squares into which the country is divided. Rates are computed on parcel post shipments as fourth class mail matter. A basic rate is charged for the first pound to each zone and a certain amount is added thereto for each additional pound, the amount depending on which zone is involved.[103]

A zone system is now in use by Pan American Airways for making express charges. However, there is only one outstanding example of it in this country. A combination rate, applying equally within each of three zones dividing the United States, has been used by Transcontinental and Western Air and Greyhound Bus Company for joint air and bus express shipments. However, it is not ascertained how these rates were computed or on what basis the zones were established.

There is no uniform rate basis for air express, except such as is found on the lines represented by General Air Express or by the Railway Express Agency, and these latter vary as between the same cities. The smaller airlines giving local air express services charge whatever rate seems reasonable under the circumstances, the principal concession being made to pick-up and delivery charges.

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103. *E. S. Ketchum*, op. cit., note 20, p. 510.

THE ILLINOIS PLAN OF AVIATION ENCOURAGEMENT

REED G. LANDIS*

I. INTRODUCTION.

A state has two major functions which it may perform in connection with civil aviation. The first and most obvious is regulation of intrastate flying activities and facilities in conformance to the federal regulations. The second is the encouragement and development of the art in order that the citizens of the state involved may have available for their convenient use this most modern transportation tool.

A recent survey shows that 47 of the 48 states have already enacted legislation of some sort or another looking towards the accomplishment of part or all of the first undertaking, i. e., regulation. The same investigation indicated that not over a dozen of those states have started on the second portion of the program and only one of those, Michigan, is actively executing a complete program of positive encouragement.

The advantages and difficulties of regulation have been so well covered in the past as to need no discussion here. Suffice it to say that, in addition to the benefits of regulation from the public safety viewpoint, it does have a very distinct influence on encouragement. As aviation is made more safe, public confidence in its use will increase and there will be an enlarged activity.

An aircraft, to be a safe, effective transportation vehicle, must have a place from which to depart and a place to terminate its flight. Its pilot must be provided with certain information before the flight, and preferably during the trip, as to weather conditions. Along the route flown between the two terminals there should be aids of various sorts for navigation and for safety in case of emergency. All that is true whether the flight be a regularly scheduled one by an airline, an unscheduled taxi flight, a commercial flight by a fixed-base operator, or a trip for pleasure or business by a private owner. When the time comes that an aircraft may undertake a flight between any two points, and find such condi-

*Chairman, Illinois Aeronautics Commission; Formerly President, National Association of State Aviation Officials; and Member, Board of Directors of the AIR LAW INSTITUTE.

tions as above described, practically available, then and not until then will aviation be able to exert its full influence as a form of transportation, on the scale of living of all citizens, and not until then will the aviation industry, and those citizens gaining their daily bread from it, realize the full benefits from their pioneering, invention, investment, and self-sacrifice.

Positive encouragement of aviation by states may take a number of forms. They can be subdivided into three general headings: (1) Landing Facilities, including airports, landing fields, emergency landing strips; (2) Navigational Facilities, including air markings of towns and routes both for day and night use, obstruction marking in the vicinity of landing areas and along traveled routes; and (3) Weather Service cooperating with the Federal Weather Bureau in the collection of information and the dissemination of reports and forecasts. There are other services and facilities which can be provided, but in general they come under one or another of the above headings and are ancillary to the activities above described.

II. The Illinois Plan.

In Illinois, the Aeronautics Commission has worked out a program of direct encouragement including all of the factors listed. The Commission is convinced that the provision of those facilities and services will not only make available this new form of transportation to all citizens in the State, but that it will very directly stimulate aviation activity and be the means to an increased volume—reducing operating costs to a point where a much larger portion of the population will use aviation. This of course promises aviation operators the opportunity to throw away the red ink so generally being used by bookkeepers, and to put their operations on a sound, profitable basis. When we consider that railroads carried about seven hundred million passengers in the year when airlines reached their present peak of only one-half of one million, it is apparent that there is much room for expansion.

Landing Fields:

The Illinois plan contemplates the provision by the state, in cooperation with minor subdivisions thereof—such as counties and municipalities—of landing fields in all parts of the state, so that at no time will an airman be more than 12½ miles from a prepared landing area, and so that every citizen will be within a

dozen miles at the most of such an area. Because most of these landing areas will be located close to a community, the overwhelming majority of the population of Illinois will be within a few minutes of such a landing field.

The Illinois plan does not contemplate extensive expensive installations. It is premised on the fact that usable land may be leased for a net cost of approximately $2.50 to $3.00 an acre, and that approximately 50 acres, properly laid out, will provide safe, usable, landing fields. It is contemplated that the subdivisions of the state will provide the ground on lease, paying the rent as their share of the cost—approximately $150 to $200 a year. The sites will be selected by the local authorities in cooperation with the State Commission. When the ground is properly secured on a lease of not less than five, or preferably ten, years in length, including, wherever possible, an option to purchase, the State Commission will put the surface into proper condition, planting a crop of alfalfa or similar self-perpetuating, low vegetation, install the cross or circle, boundary markings, and wind sock, and maintain this surface and markings in usuable condition during the life of the lease. It is estimated that not to exceed $500 will be expended by the State in such initial conditioning, and that $100 per year per field thereafter will maintain them. In their initial stages these landing fields will not be fully equipped airports with hangars, lights, etc. They will be well marked, useable, landing areas. Each will be so located and laid out and of such size as to be susceptible to development as conditions justify.

The local community may, with the approval of the State Commission, enter into operating contracts for various activities on the airport which will give them an opportunity to reduce their net cost per year. Any such activity which might be developed would be consumptive of gasoline, and if the program were financed by a gasoline tax, such facilities would therefore contribute to their own maintenance cost.

Emergency Landing Strips:

In the vicinity of the congested areas of Chicago and East St. Louis, the Commission contemplates the provision of certain emergency landing strips of not less than 1800 feet in length and several hundred feet wide, which will be leveled and marked for emergency use only. Such strips will lie under routes used by scheduled operators in approaching the terminals of those communities, and

make possible the shortening of the flights by a good many miles per day, thus working an economy, while enhancing safety, for the scheduled as well as the unscheduled operator flying in such vicinities.

The progress being made in night flying indicates clearly that a substantial increase in this type of activity will soon take place throughout all aviation. After a reasonable number of state fields have been provided, certain of them will undoubtedly require night lighting facilities. The cost of such facilities is being reduced and by the time that portion of the program is reached, it is confidently believed they can be provided.

Air Marking:

The air marking part of the Illinois program includes the placement of location and direction markings on state highways, roofs, and other points of prominence all over the state. The Commission has already received numerous offers of cooperation in connection with such air markings from several civic groups, Chambers of Commerce, American Legion Posts, and similar public spirited organizations and individuals, and it is convinced that such markings can be placed at very frequent intervals throughout the state at a relatively small expense.

Obstruction marking around airports is included in the airport program, and estimate of cost therefor. There are very few major obstructions, other than in the neighborhood of airports, which must be marked in Illinois. Among those which do exist are high-tension lines, and the State Commission is experimenting now through the cooperation of certain public service companies, with a Neon gas marker, gaining its current by induction and costing a very few dollars initially, and costing practically nothing for current. If this device proves satisfactory, it is planned to provide these markers to operators of high-tension lines for the marking of such lines, first, in the vicinity of airports; secondly, where well-traveled routes cross or parallel high-tension lines; and third, along all high-tension lines. Because high-tension lines almost always run in a direct line between centers, such marking is of value not only from the obstruction viewpoint, but as an aid to navigation.

Intermediate Fields:

In cooperation with the Department of Commerce, certain routes within the State of Illinois, used both for scheduled and

unscheduled operations rather heavily, are to be equipped with intermediate fields and, as funds are available, with night lighting. A portion of the federal airway facilities within the State of Illinois are, or will shortly become, more of an intrastate than interstate character. The Department of Commerce has suggested that the state take over those facilities—which will allow the federal government to improve its purely interstate airways. Certain of those interstate airways crossing Illinois need additional intermediate facilities. This has been considered in laying out the location of the proposed Illinois fields, and in this way, too, interstate commerce will directly benefit from the program. Certain existing intermediate fields now used by federal airways require enlargement or additional equipment. The state will cooperate in this work.

Radio Beacons:

Radio is playing a rapidly increasing part in aerial navigation. Practically all scheduled operations now depend upon it for safety and this Commission is convinced it will shortly be used by most, if not all, unscheduled operators. This will require the eventual installation of radio beacons to guide aircraft along state airways, of facilities to receive and broadcast weather reports to and from aircraft in flight, and perhaps radio devices to enable aircraft to land safely in weather conditions making visibility impossible. It is believed that ample funds will be available from increased fuel consumption when the need for this service arises.

Weather Reports:

The Federal Weather Bureau has advised the State Commission that it will be exceedingly helpful to it to secure a more intensive reporting service on air weather conditions within the state, enabling it to make more detailed reports and forecasts, and to route air traffic around local areas of bad weather, thus increasing the efficiency of air carriage. The Illinois plan contemplates the use of the teletypewriter system of the State Police for the collection of such reports and their delivery to the Federal Air Weather Bureau. The same network of teletypewriters will be used for the dissemination of weather reports and forecasts to operators throughout the state in addition to the facilities now available. The cost of this service will vary with the use made of it.

Summary:

Such a program completed will make possible the extension of airways in any direction over any part of Illinois for use by scheduled or unscheduled operators.

The entire program has been conceived after careful study of the effect of the national hard road program of the automobile industry. That study was charted and the chart published in the January, 1933, issue of the JOURNAL OF AIR LAW.[1] It indicates very clearly and directly that for each mile of surfaced road provided, not only did the number of automobiles per mile of road increase, but each automobile was used more—in other words, the provision of those facilities increased production of automotive vehicles and increased the use made of them, as well as providing a tremendous source of volume for the gasoline, oil, cement, road machinery, and many other industries and workers.

No one will argue against the necessity for increased volume in aviation. In such an increase lies the only hope for aviation profit. And only in such increase can the public hope to gain the maximum benefits which this new form of transportation holds out for them.

III. ENDORSEMENT OF THE ILLINOIS PLAN.

That the Illinois plan holds substantial promise of benefits to the aviation industry as a whole and to the citizens of Illinois, is not alone the opinion of the Illinois Aeronautics Commission. Mr. Charles L. Lawrance, when President of the Aeronautical Chamber of Commerce of America, Incorporated, said, in his book "Our National Aviation Program":

"If American aviation is to meet the commercial demands being made on it as a means of high-speed transportation and communication, and if it is to continue as an effective and progressive medium of national defense, it must have assurance of support, broadly defined as follows:

> '* * * Recognition by the several States of their responsibilities as well as their privileges in the development of commercial aviation, particularly private and business flying, by imposing no unnecessary burdens of taxation or fees, by adopting rules and regulations uniform in principle with those of the Commerce Department, and by supplying such intrastate aids to air navigation as will complement the national airways system now under construction by the Federal Government.'[2]

"How soon the 3,750 private planes will be increased depends largely upon advanced engineering and, probably, lower prices, together with un-

1. 4 JOURNAL OF AIR LAW 16.
2. *Charles L. Lawrance,* "Our National Aviation Program (published 1932 by the Aeronautical Chamber of Commerce of America), pp. xi-xii.

interrupted development of our Federal airways and the maintenance of aids to navigation. *The States must supplement the federal program with airports, airways, lights and weather data for flying within their boundaries.* It seems clear to me also that private flying will increase only to the degree that patronage of the scheduled transport system increases. As the body of the public intelligently acquainted with the advantages of air travel is enlarged, so will be enlarged the prospective market for the sale of private planes."[3]

"Development of the aerial service market for the industry depends on improved engineering, greater pay load efficiency, lower initial and operating costs, and, most emphatically, not only on the maintenance of the Federal airway program but also upon the *provision by the states of aids to navigation for intra-state flying."*[4]

"It is likewise true that private or intrastate flying will appear as a major factor in social and business life when—and *only when—the several states recognize their opportunities and responsibilities.* What extensive private flying will mean to the aircraft industry as a market and to the interstate air mail and transport sytsem as a feeder, is indicated by the fact that in 1930—a stagnant year—9,500 airplanes in private or charter service mostly within state boundaries, flew, it is estimated, approximately 136,000,000 miles and conveyed 3,000,000 persons. *The opportunity of the states is deliberately to encourage this phase of aeronautics. Their responsibility to do so rests in public obligation. The desired end, I believe, can best be achieved through the application of uniform rules and regulations in harmony with those promulgated by the Federal Government, and in the construction and maintenance of airports and aids to air navigation within state borders."*

"Little has been done thus far by the States as a group to encourage the development of aviation, even for their own advantage. Legislation governing the operation of aircraft within their borders was enacted by a number of states long before the Air Commerce Act of 1926 went into effect. Today, there is not a state in the Union that does not attempt to regulate or tax aeronautic activity in one way or another. Many have passed enabling acts, making it possible for counties and cities to acquire property and operate airports, but aside from the authorization of such agencies to spend money, the support accorded to aviation by the states has been largely passive. For the most part, they have been content to sit by, watching the Federal Government carry out its development program. *Because of this, aviation has suffered and the States have deprived themselves of a constructive factor in their growth.*[5]

"It may appear to some that the Aeronautics Branch of the Department of Commerce has been and is doing all that is necessary to foster the growth of aviation. *That is an erroneous impression.* The Aeronautics Branch has done an exceptionally good job thus far, but its activities are definitely limited. It cannot, for example, aid in the construction of terminal landing facilities. It is prohibited by law from doing this. Neither can it be expected to engage in the construction of purely intrastate airways.[6]

3. Ibid., p. 10.
4. Ibid., p. 11.
5. Ibid., pp. 154-155.
6. Ibid., p. 161.

"The establishment of intrastate air routes that will join and supplement the Federal system is a job for the individual states, *one that should be started immediately.* Some of the State governments have already commenced the work, though this condition is by no means general."[7]

The Illinois plan has been submitted to leaders in aviation in the United States. Among the many score letters received let me quote the following:

A manufacturer of aircraft says,

"Your plan for placing airports throughout the State of Illinois at a distance of not over fifteen miles apart, sounds like a reasonable one and should be readily accepted by all those interested. *If this service could be paid for by the taxation of two cents per gallon on gasoline for aviation fuel, the entire aviation industry should assist you in every way possible to put your plans across."*[8]

A publisher of an aviation paper writes,

"In my opinion the State of Illinois in its development of landing fields, weather service, air markings and similar aids, coordinated with the Federal program, can do considerable to stimulate aviation in Illinois, particularly from a commercial standpoint. The rapid development of air transportation during the past three years leads many in the industry to believe that with the improvement of general business conditions air transportation, as an industry, will forge steadily ahead. Consequently the State of Illinois must be ready to meet this development, if it is to participate in the growth of the industry."[9]

A salesmanager of a large aircraft manufacturing concern says,

"It is only reasonable to suppose that when more business men take to personal flying and appreciate its time-saving, there will be a greater demand that all first-class mail be handled by airmail and fast automobile, and a fine network of feeder mail planes to the main arteries be set up, and that the business man who cannot afford or does not actually need a personal airplane will be more readily sold on a wider use of the airlines, and believe in more general use of personal airplanes by his more successful or more needful immediate neighbors. We have a feeling adequate airport facilities for personal flying and for small feeder lines can be provided without enormous expense, particularly in the area in which we both reside, and that if the average community could get away from the thoughts of the big municipal airport, concerning which it hears so much, and realize that fifty to seventy-five acres of level ground with no immediate obstructions and without any elaborate monstrous hangars to house fifteen or twenty airplanes, but at the most one small hangar and gasoline

7. Ibid., p. 163.

8. Hart H. Bowman, Sales Director, Rearwin Airplanes, Inc., Kansas City, Kansas; Letter of February 15, 1933.

9. Harry Schwarzschild, Publisher, "Air Transportation," New York, N. Y.; Letter of January 27, 1933.

and oil facilities, will give them a good start and provide a nucleus for natural expansion, they could become more readily interested."[10]

The editor of an internationally known aviation paper says,

"I understand that there is a possibility of your being able to do some state airway work in Illinois. You may imagine with what enthusiasm I hear the news. *Nothing could be more helpful in promoting aeronautical activity, both in encouraging the inauguration of small feeder lines and in making it possible for private owners to get more use out of their airplanes.* A considerable number of citizens of your state will benefit directly, either through the use that they will make of aviation or through the employment that will be provided by the airway work, and an immensely larger number will benefit indirectly. I feel that this matter is of particular importance in a state like Illinois—of very large extent geographically, thickly settled, having a vast amount of business traffic within its boundaries, and at present possessing only a relatively small mileage of federal airway. *I sincerely hope that I shall have early report that decision has been taken to go ahead with the work,* and to prosecute it vigorously to the point where you will have a really adequate network of state airways."[11]

The president of an aircraft manufacturing concern says,

"*Any effort on the part of the State to help out with airways, airports, or weather stations, will certainly be appreciated by the entire industry, and I am sure will stimulate aviation in your state.* I believe you can be proud that the State of Illinois is taking the lead in a movement that is so much needed, because after all airways, airports, and other facilities will do the same thing to air traffic that good roads did to the automobile traffic."[12]

The vice president of a large manufacturing concern of automotive and aircraft engines, says,

"We feel safe in stating that state-wide provision by the State of Illinois of landing fields and other aids may be expected to stimulate commercial and private flying. * * * *We do not concur with the officials of many states in their decisions to abandon their aeronautical activities completely during these troublesome times. Such action is likely to result in serious injury to private and commercial flying.*"[13]

The president of a corporation operating three airports, schools, special charter service, aircraft dealerships, and repair base services says,

"We believe that the provision by the State of Illinois will aid tremendously in the stimulation of aviation. *There is nothing that we can*

10. H. R. Perry, Sales Manager, Waco Aircraft Company, Troy, Ohio; Letter of February 3, 1933.
11. Edward P. Warner, Editor, "Aviation," New York, N. Y.; Letter of February 3, 1933.
12. Z. D. Granville, President, Granville Brothers Aircraft, Inc., Springfield, Massachusetts; Letter of January 27th, 1933.
13. Robert Insley, Engineering Vice-President, Continental Aircraft Engine Company, Detroit, Michigan; Letter of January 28th, 1933.

think of that would be of more service to aviation in general, and particularly to any state adopting that plan."[14]

A large manufacturer of paints and varnishes used in the aviation industry, which uses aircraft in their business, says,

"It is our belief that every assistance is needed to stimulate all branches of aviation, and that the State should participate in promoting aviation as it has in promoting the automobile industry through the building of highways. *Michigan has been taking active steps in this direction with the establishment of a large number of emergency landing fields, through the northern part of the State, which have already proved a boon to flyers;* and they are now conducting a wide and helpful campaign in air marking all the towns in the State."[15]

A manufacturer of parts used in the manufacture of aircraft and automobiles says,

"It is in our opinion quite reasonable to expect that aviation would be stimulated in Illinois by the coordination of the Federal program and that of the State of Illinois regarding weather service, air marking, and similar aids."[16]

An air transport corporation says,

"We believe that co-operation between the various States in developing additional airways between them to those established by the Federal Government will be a great advantage in the development of aviation in general and be similar to the development of certain highways established through the co-operation of various State Highway Departments. With such a development, it would be possible for Air Transport Companies operating chartered service to carry passengers and express to various points not reached economically by the present Air Transport Companies. We have had some of our ships chartered for such a purpose, wherein representatives of a large industrial concern of Niagara Falls, N. Y., were enabled to cover several points in Pennsylvania, New York, and West Virginia the same day, which it would not have been possible for them to have done if flying over the present scheduled air transportation systems. Again we were unable to carry out an extensive itinerary for these same people because of the lack of landing fields at various points. As to private flying, we believe you will realize it would be undertaken to a much greater extent if it were possible to reach safely many points not now provided with such facilities as you refer to."[17]

The president of a fixed-base company, operating in a gasoline tax state, says,

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14. H. P. Williams, President, Wedell-Williams Air Service Corp., Patterson, Louisiana; Letter of January 26th, 1933.

15. Thos. B. Colby, Manager Aviation Division, Berry Brothers, Detroit, Michigan; Letter of January 27th, 1933.

16. Perry Williams, Kelsey-Hayes Wheel Corporation, Detroit, Michigan; Letter of January 27th, 1933.

17. F. B. Downing, Aeronautical Transport Corporation, Erie, Pennsylvania; Letter of January 27, 1933.

"Anything done to encourage Aerial Transportation, either commercial or private, could not help but be a boon to Aviation at this time and *your plans unquestionably should be carried forward as rapidly as possible.* Each new means of transportation has brought with it a new layer of wealth and an industrial boom and my slant on the present economical business situation is such as to make me believe that in the development of Aerial Transportation is our possible way out."[18]

A prominent aircraft and engine manufacturer says,

"I feel certain that a comprehensive program, such as you describe, for the State of Illinois will greatly stimulate aviation in that State, particularly with respect to the amateur flyer, who is just learning or about to learn to fly. One of the greatest needs, I believe, for the amateur flyer or, rather, the man who is just learning to fly and who is not yet accustomed or competent to fly long distances, is a greater number of airports located relatively near to each other."[19]

An aircraft motor manufacturer says,

"We feel that any assistance given by the state governments to the Federal programs, should stimulate all types of flying within its boundaries."[20]

One of the largest aeronautical supply houses in the country says,

"In giving this matter serious consideration I believe that will be of great benefit to the State of Illinois and, furthermore, I believe it will be taken up by other states of the Union which will provide employment, nation wide advertising regarding air travel and I really believe it will stimulate business a great deal and *I certainly hope that the State of Illinois leads the way in regard to state provision of aeronautical facilities.*"[21]

A manufacturer of magnetos used in automobiles and aircraft writes,

"There is no question that the state-wide provision by your State regarding landing fields, weather service, air marking, etc., coordinated with the Federal program will stimulate aviation travel, private and commercial. *This company will be only too glad to cooperate with you to the extent of its ability.*"[22]

One of the best-known aircraft manufacturers in the country says,

"The provision of such aids to aviation in a program coordinated with

18. Talbert Abrams, President, Abrams Aerial Survey Corporation, Lansing, Michigan; Letter of January 25, 1933.
19. F. E. Bradfield, Szekely Aircraft and Engine Company, Holland, Michigan; Letter of January 25, 1933.
20. Ralph R. Irwin, Vice-President, The Warner Aircraft Corporation, Detroit, Michigan; Letter of January 25th, 1933.
21. E. A. Johnson, President, Johnson Airplane & Supply Co., Dayton, Ohio; Letter of January 25, 1933.
22. G. E. Steiner, Sec'y & Treas., Scintilla Magneto Co., Inc., Sidney, New York; Letter of January 26, 1933.

that of the Aeronautics Branch of the Department of Commerce, will unquestionably stimulate private and commercial activities. Our own opinion on the matter is that you could best and most economically assist general aviation activity in Illinois by inaugurating a program for the establishment of numerous emergency fields throughout the State, which can be used at very nominal cost by small commercial operators, flying clubs and individuals and by establishing aids to navigation, principally in the form of highway markings plainly visible from the air. *While real estate is cheap the time is ripe for the State to invest in suitable tracts for future development, and the procurement of such Airport sites might well be coordinated into a State-wide program for emergency relief resulting in a great eventual saving to the State, and in the immediate relief of many unemployed people.*"[23]

One of the governors of the Amateur Air Pilots Association says,

"Of course the chief difficulty of promotion work of this type is the problem of coordinating the development of the facilities with the development of the users. In other words it is the old question of which came first, the hen or the egg. It is difficult to provide a string of airports unless you have enough people to use them. On the other hand it is difficult to stimulate very much flying unless you have the facilities for it. The two go hand in hand in the practical application but theoretically it would be better to have the facilities provided to begin with and, where there is a system and funds available to provide the facilities prior to the stimulation of flying, then, of course, this is the best method of procedure but too many times the development of the facilities is dependent upon the enthusiasm created by a large amount of flying activity. *If you are in a position where you can provide the ground facilities prior to stimulating flying activity then you are in an enviable position* and in normal times the flying activity would soon catch up and keep pace. * * * I think that your plan of development of airports at short intervals is very commendable. I believe it is generally conceded that one of the chief causes for a number of unnecessary accidents on our main air lines is the distance between intermediary fields. The pilots have found themselves in difficulty too far from an intermediary field to land safely."[24]

Another large varnish and paint manufacturer, serving the automotive and aircraft industries, says,

"There is no doubt that well equipped airports, air routes that are properly marked, good weather service for all aircraft and other similar aids for aviation are analogous to the improved road conditions for automobile traffic. In other words, you will always find more automobiles in a State in which the highways are kept in good shape and improved than you will in a State wherein there are few improved highways. We are confident that such improved conditions would have a great deal to do with

23. C. P. Warner, Commercial Sales Manager, Fleet Aircraft, Inc., Buffalo, New York; Letter of January 26, 1933.
24. Charles M. Taylor, Governor for Arkansas, United States Amateur Air Pilots Association, Inc., New York, N. Y.; Letter of February 2, 1933.

the increase of interest particularly in private aviation. Commercial aviation is rapidly becoming an integral part of our transportation system and of course improvements such as you have listed would have to do with the establishment of better air service between the more important cities in your State and interstate travel."[25]

A manufacturer of lighting equipment for aircraft and airports says,

"In response to your letter of January 24th, concerning the Illinois statewide provision for the purpose of supplying or installing weather service, air marking, and similar aids, coordinated with the Federal program, wish to go on record as stating that *we are heartily in favor of the movement.* It is felt that private and commercial aviation will be stimulated very distinctly by such a movement, much in the same manner, and for the same reason, as to such improvements as state roads and many other local state improvements."[26]

A chief executive of one of the largest spark plug companies in the world writes,

"In our opinion, the cooperation of the State of Illinois with the Federal Department of Commerce program for providing landing fields, weather service, air markings, and similar aids most certainly ought to stimulate both private and commercial flying, particularly in the State of Illinois, *but throughout the country also,* in setting an example to other states and in providing conveniences and facilities for flights through the State of Illinois but between points outside the State."[27]

The operator of one of the most prominent flying services in the country says,

"I am sure that service now being rendered by the state will serve to stimulate flying, not only in Illinois but throughout the country. As I see the situation it is comparable to a like period in the automotive industry. We all know that progress in the motor car field would not have been very rapid, despite the great engineers and executives engaged, had it not been for the nation wide progress made in highway construction. If we expect new blood to enter the flying business we must make it easier to go from place to place by installing numerous air markings which can be interpreted by the layman. Also fields must be so numerous that the private owner, aerial salesman and others can land at the town they desire to visit, instead of twenty to fifty miles away and motoring to their destination. *I am for the work now being done, so here is wishing you more power in pushing it to a successful conclusion."*[28]

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25. G. B. Work, Technical Division, Industrial Sales Department, The Glidden Company, Cleveland, Ohio; Letter of January 26, 1933.

26. E. A. Sipp, Manager Lighting Division, The Pyle-National Company, Chicago, Illinois; Letter of January 26, 1933.

27. Duane Stranahan, Champion Spark Plug Co., Toledo, Ohio; Letter of January 30, 1933.

28. S. C. Huffman, Vermilya-Huffman Flying Service, Cincinnati, Ohio; Letter of January 30th, 1933.

The sales manager of a large manufacturer of aircraft instruments writes,

"We are pleased to say that we cannot help but feel that a state program such as you have mentioned would certainly stimulate aviation in your own state and also assist in its promotion throughout the country. *We hope that it will be possible for your state, as well as many other states, to undertake the projects that you mention.*"[29]

The editor of a famous aviation publication says,

"I believe that provision by any state of facilities you mention would do much to assist the general development of aeronautics in that state. Just as the federal aids have fostered the advancement of aviation, aids sponsored by the states in cooperation with the federal program should prove correspondingly effective in this connection. It would seem that a state aeronautics commission would be in a position to render most effective assistance in guiding the federal program within the state borders, being able to keep closer contact with local conditions and coordinating them with the federal plans. Such a service might reasonably be expected to stimulate private and commercial aviation in Illinois."[30]

Another aircraft manufacturer writes,

"We wish to advise you that the provisions of the State of Illinois for landing fields, weather service, air marking, and similar aids *can be nothing other than a great benefit to commercial aviation.* With the advent of increasing numbers of private owners, it is necessary that they be provided with as many measures of safety as possible, and particularly due to the non-professional flyer, it is essential that this type of flyer be provided with the above-mentioned necessities. We believe that with a reasonable amount of aid in the provision of adequate facilities being given this type of commercial aviation it *will soon develop to be a very decided factor in the transportation of the country.*"[31]

The manufacturer of round-the-world aircraft says,

"In answer to your letter of January 24, regarding weather service, markings, etc., we believe that any move to improve conditions will help stimulate aviation in all its branches."[32]

A world famous pilot, employed by one of the large gasoline companies, states,

"It is my personal opinion that a state wide provision of auxiliary landing fields, weather service, air marking and similar aids to aviation, properly designed to supplement the federal program will undoubtedly

29. John D. Peace, Jr., Sales Manager, Pioneer Instrument Company, Brooklyn, New York; Letter of January 30th, 1933.
30. George F. McLaughlin, Editor, Aero Digest, New York, N. Y.; Letter of January 30, 1933.
31. L. E. Reisner, Vice-President, Kreider-Reisner Aircraft Co., Inc., Hagerstown, Maryland; Letter of January 29th, 1933.
32. Carl A. Cover, Vice-President, Douglas Aircraft Company, Inc., Santa Monica, California; Letter of January 30, 1933.

stimulate the development of aviation in Illinois. Any developments along this line we shall watch with interest."[33]

The world's largest manufacturer of photographic supplies and equipment, says,

"It is our opinion that a movement of this kind would stimulate and encourage both Commercial and Private aviation."[34]

The general manager of the oldest aeronautical supply house in America says,

"The weather service, air marking, and similar aids working in co-ordination with the federal system, will provide an excellent foundation for the successful and reliable operation of the commercial transportation lines. The growing private market will at the same time be materially assisted, because, as more individuals take to the air, they will find the aerial highways already mapped out for them. This work is fundamentally necessary to the development of private flying. *We take this opportunity of endorsing the State administration in the continuance of the Illinois Aeronautics Commission,* and we hope that in the future they will realize an extensive increase in aeronautic activity within the State."[35]

One of the oldest and most famous pilots writes,

"I would say that based on the experience of the New York State Aviation Commission that has coordinated with the Federal Program in furnishing a State Service covering weather service, air markings, landing fields, etc., which has proved of considerable assistance to local flying that such a system instituted in Illinois would have a similar beneficial effect."[36]

A large manufacturer of electrical supplies says,

"There seems to be no question but what a provision for landing fields, weather service, air marking and other aids of this character will greatly stimulate both commercial and private aviation in any state adopting these improvements."[37]

One of the world's largest manufacturers of electrical supplies writes,

"It is our opinion that provision by the State of Illinois of landing fields, weather service, and other aids to air navigation, could be expected to stimulate both private and commercial aviation in Illinois. We would expect, of course, that such aids would be closely coordinated with the existing federal airway system. We should think that having well equipped

33. J. H. Doolittle, Shell Petroleum Corporation, St. Louis, Missouri; Letter of February 2, 1933.
34. F. O. Strowger, Manager Contract Sales Division, Eastman Kodak Company, Rochester, New York; Letter of January 31, 1933.
35. Charles W. Morris, General Manager, Heath Aircraft Corporation, Niles, Michigan; Letter of February 1, 1933.
36. Casey S. Jones, President, Casey Jones School of Aeronautics, Inc., Newark, New Jersey; Letter of January 31, 1933.
37. K. B. Hopkins, Assistant Advertising Manager, Graybar Electric Company, Inc., New York, N. Y.; Letter of January 31, 1933.

and well maintained landing fields at cities and intermediate points not now so equipped would prove a decided incentive for the extension throughout the state of present airline routes and the formation of new ones. We imagine that this should also prove a stimulus to private flying, even though at present this particular branch of flying has not come into very wide usage. It seems to us that such state-wide provision of landing fields, etc., *should result in greater use of company owned airplanes by various business concerns in the state.* If such business concerns were assured of proper landing facilities throughout the state, they could perhaps much better appreciate the value of an airplane in their particular line of business. Our own company has an airplane which is used both for demonstration of our aircraft devices and for transportation. Where it is used for transportation, we are sometimes handicapped by the fact that there is no airport near enough to the points we want to reach such that the time saved will justify the use of the airplane."[38]

Another world famous pilot, employed by a petroleum corporation, says,

"There is no question but that the development of aviation will depend to a great extent upon the degree of utility provided the greatest number of persons. At present the major air trunk lines fall considerably short of their possibilities largely from lack of feeder service or connecting branch lines. All indications are that this development will be logically fostered by the states themselves with the Federal Government coordinating the whole. For many years a recognized leader in the field of transportation, *I believe the State of Illinois, in considering this program of state aids for air travel, is taking a forward step that others will surely follow.*"[39]

The vice-president of an outstanding aircraft motor manufacturer writes,

"It seems obvious that the provision by any State of landing fields, weather service, air markings, etc., coordinated with the federal program could be expected to directly stimulate aviation in that State. It certainly should be of great assistance to private flying, and would undoubtedly be an added safety factor in organized commercial transportation."[40]

An airport operator in Illinois says,

"Am very much pleased to hear of the many things your commission plans to do for aviation in the State of Illinois. *I also think your plan to have a gas tax on aviation gas is a good plan.* That will be at least one way to get money to help build airports also maintain the ones we already have."[41]

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38. J. C. Miller, Aeronautics Sales, Industrial Department, General Electric Company, Schenectady, New York; Letter of February 1st, 1933.

39. James G. Haizlip, Shell Petroleum Corporation, St. Louis, Missouri; Letter of February 2, 1933.

40. C. W. Deeds, Vice-President, The Pratt & Whitney Aircraft Co., Hartford, Connecticut; Letter of February 2, 1933.

41. Herman Hamer, Operator, LaSalle-Peru Airport, LaSalle, Illinois; Letter of January 23rd, 1933.

The operator of a flying service of one of the large eastern airports writes,

"We believe that state cooperation in the establishing of landing fields, air markings and Weather Bureau facilities is of considerable assistance to the advancement of aviation and, undoubtedly, stimulates activities both private and commercial."[42]

A manufacturer of aircraft parachutes says,

"We wish to commend the Illinois Aeronautics Commission for its work. In our estimation all states could wisely take the same steps. Your work should greatly assist and supplement that of the Department of Commerce. It should stimulate all healthy developments of aeronautics in the State and result in aids and conditions that any pilot or commercial aviation company will welcome."[43]

The general manager of a large fixed-base operation in the south writes,

"In reply to your letter of February 4th referring to your plan to provide landing fields and other facilities for flying throughout the State, it is in my opinion an excellent move. At this time it may seem a little premature and the expense involved perhaps unjustified, but *I am quite sure that it will be the only way aviation will become the important part of transportation that it should. It is my opinion that in future years your work will have proved its merits."*[44]

A large manufacturer of aircraft and airport radio equipment says,

"It would seem, however, that any extension or improvement of landing fields and other facilities contributing to the improvement of commercial aviation, would be helpful to the State of Illinois."[45]

The editor of a prominent aviation journal writes,

"There is no doubt whatever that state-wide provision of landing fields, weather service, air marking and similar aids, coordinated with the Federal program might reasonably be expected to stimulate commercial and private aviation in your state. If states of the United States would only bend a little more effort in providing such items as enumerated above, flying would forge ahead more rapidly than it has in the past. Any efforts to encourage the development of aviation should be most heartily encouraged. *I would be willing to do everything in my somewhat limited power to foster such programs."*[46]

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42. I. H. Derck, Camden Flying Service, Inc., Camden, New Jersey; Letter of February 3rd, 1933.
43. L. G. Schlegel, Manager, Triangle Parachute Co., Cincinnati, Ohio; Letter of February 8, 1933.
44. Bob Bauman, Vice-President and General Manager, Birmingham Air Service, Inc., Birmingham, Alabama; Letter of February 9th, 1933.
45. E. A. Nicholas, Vice-President, R. C. A. Victor Company, Inc., Camden, New Jersey; Letter of February 10, 1933.
46. Michael H. Froelich, Editor, Air Transportation, New York, N. Y.; Letter of February 11, 1933.

One of the world's largest manufacturers of wire, rope, and similar material used in industry generally and in aviation, who, incidentally, use aircraft in their own business, writes,

"Your plan has a great deal of merit and we believe that the improvements suggested in your letter would be of great value to the transport lines and private flying enterprises in the State of Illinois. *We note that you state these improvements could be financed out of a 2c per gallon tax on aviation fuel and that no other tax would be necessary in order to put the plan into effect. On that basis, we heartily endorse the improvement suggested in your letter.*"[47]

A pilot operator of one of the important airports in the Chicago District writes,

"If the operator is to progress and keep his airport in suitable condition, he will be put to quite an expense individually and it is quite unlikely that he will succeed. On the other hand, if by the creation of a State fund accruing from a nominal gas tax he should be benefited in the reception of increased business caused by the aid given aviation activities in general in Illinois, he, the operator, will of course be more financially able to carry on by virtue of this increased business. The numerous aids as outlined to me contemplated by the commission will surely be of invaluable benefit to us all. *And I believe the small amount of tax can be so easily absorbed that no one could logically object in view of the great help to be achieved.* I for one do not seek or expect any form of State subsidy; our business can prosper and grow by its own obvious necessity. *I am heartily in support of this proposed tax and I shall endeavor to convert others who are ignorant as to the advantages to be derived from its inception.* To quote an old platitude, 'It takes money to make money,' meaning that a tax fund judiciously dispensed will help all of us in Illinois to make money."[48]

The president of one of the outstanding aircraft manufacturers in the nation, affiliated with a large airline, writes:

"There is no question but that a state-wide provision for landing fields, weather service, air marking and similar aids coordinated with the Federal program might reasonably be expected to stimulate both private and commercial aviation within that State. These facilities are analogous to highways, and *with their development air transport should progress as has motor transport with the development and increase of highways.*"[49]

The sales manager of an international aerial photographic company says,

"In my opinion it is just as logical to expect a state-wide system of

47. E. T. Weart, John A. Roebling's Sons Company, Chicago, Illinois; Letter of February 13, 1933.
48. Charles E. Strong, Operator, Harlem Airport, Oak Lawn, Illinois; Letter of February 20, 1933.
49. F. W. Neilson, President, Sikorsky Aviation Corporation (Division of United Air-Craft and Transport Corporation), Bridgeport, Connecticut; Letter of February 20, 1933.

landing fields together with weather service, air markings and similar aids coordinated with the Federal program to stimulate aviation as the State Construction of Highways stimulated the use and consequently the production of motor cars."[50]

The State of Michigan imposed a 3c per gallon gasoline tax on aviation motor fuel in 1929. The monies resulting have gone into an Aeronautic Fund which has been used for the provision of 27 landing fields, 11 beacons, extensive air marking, emergency landing strips, 8 weather reporting stations, and cooperation in night lighting for fields important to night operations which otherwise would have been dark.

Colonel Floyd Evans, Director of the Department of Aeronautics of Michigan, in a letter dated February 9th, 1933, says,

"There has not been a single complaint received in this office from any individual or airline operator against this tax. When there is a semblance of a landing field at every town, city, and railroad stop, flying will become popular, but until that time the use of the airplane will be as limited as the use of a speed boat."

The president of one of the largest aircraft manufacturers in the world writes,

"I have noted with a great deal of interest your proposed state-wide provision for landing fields, weather services, air markings, etc., for Illinois. I wish to express my appreciation of your efforts in such a valuable work, and to compliment you upon your vision in the type of assistance which is so much needed for the development of safe air travel, in the furtherance of the day when many tons of cargo will be travelling through the night between the important centers of the United States, due to the experienced airmen of vision who are urging the necessity for aircraft upon the various states."[51]

A major executive of a large aircraft manufacturer, affiliated with a great airline system, says,

"Every manufacturer, pilot, airport manager and in fact most every one connected with the aviation industry is well aware of the fact that States having Aeronautical Commissions, and who work in coordination with the Federal Aviation branch of the Department of Commerce, do stimulate aviation activity, both private and commercial. It is not reasonable to expect the Federal Aviation Commission to assist in the marking of towns or to promote local activity. The Federal Commission has neither the money nor the men to do this job properly. Likewise it's the state's lot to encourage the building of airports off main transcontinental air lines and in this way bring to the small town a nation wide feeder system of air

50. C. A. Harrison, Sales Manager, Fairchild Aerial Camera Corporation, Woodside, Long Island; Letter of February 20th, 1933.

51. Glenn L. Martin, The Glenn L. Martin Co., Baltimore, Letter of February 14, 1933.

lines connecting with the coast to coast lines. We are of the opinion that State Aeronautical Commissions should be coordinated with the Federal Commission and use the Federal system of granting licenses to aircraft and airmen. The enforcement of intrastate flying is in the hands of State Commissions and this is a job of work that can only be handled by the various state Commissions as the Federal Commission can only govern interstate operations. There is a very definite need for State Aeronautical bodies at this time."[52]

A large manufacturer, intimately connected with airway construction and maintenance since their beginning, says,

"The rapid strides made by air transportation during these trying financial times indicate very definitely to those within the industry and to those but casually interested that this method of transportation is here to stay and to carve a definite niche in our civilization. Furthermore, it is particularly evident to those within the industry that this transportation cannot progress beyond the airway and air terminal facilities provided for it. For that reason we sincerely hope that you will be successful in providing such facilities supplemental to those aids already established by the Federal Government in the State of Illinois."[53]

One of the industrial giants of the world says,

"Public faith in air transportation is largely measured by its opinions as to the safety of flying. Well lighted, adequately located airports, well marked airways and other safety promoting services will contribute much to an increased public confidence and mental comfort, in the same degree that public fear of cross-country travel by automobile has been eliminated by the knowledge that good roads, well supplied with service repair stations, are broadly available. Public opinion of the dangers of flying, real or fancied, constitutes at the present time one of the inviting features of air travel for those who fly because of the "thrills" it offers. Obviously, air transportation will not become a truly commercial reality, or a private user's necessity, until flying is divorced from this mental concept of the general public.

"We are pleased to have had the privilege of contributing our opinions in this matter and believe that your plan, looking especially to the future response and stimulation that will result, is inherently sound and commendable."[54]

An Illinois doctor, owning and flying his own airplane, says,

"I believe one of the best hopes we have to get more airplanes in the air is reduced operating costs. I see no way of accomplishing this except by using our present airplanes more than we do now.

"Because I feel sure the provision of landing fields and air markings

52. Frank X. Mara, Stinson Aircraft Corporation, Wayne, Michigan, Letter of January 31st, 1933.

53. C. Simpson, American Gas Accumulator Company, Elizabeth, New Jersey, Letter of March 8, 1933.

54. A. P. Schrader, Assistant to Sales Manager, Transportation Department, Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa., Letter of February 28, 1933.

and the other parts of your Illinois Plan of encouragement will cause aircraft to be used more and thereby reduce the cost, I am in favor of the plan, including the gasoline tax.

"I think that the increased volume should very soon be enough to absorb the cost of the gasoline tax and pay us an extra profit."[55]

Another Illinois pilot and plane owner says,

"As the owner of an Illinois airplane, I have gone over your program for encouragement via a State gasoline tax on aviation fuel. I believe that it will benefit aviation more than it will cost aviation, and that it probably is the best way for us to make a profitable, worthwhile business."[56]

The operator of one of Chicago's airports has this to say,

"There is no doubt that we all need more volume in aviation, and I believe that the provision of landing fields, air marking, weather service, and other facilities included in your encouragement program will create that volume for all commercial operators and in addition make it possible for private owners to use their airplanes more. This will of course reduce the cost per mile of operating an airplane and should do so even more than the cost of the tax involved.

"On the basis of that belief, I endorse your proposal, primarily because I believe it will help me to make more money, and to operate a safer and sounder business."[57]

From far-off Montana comes this statement, after observing the gasoline tax in Idaho,

"My first reaction in coming to Idaho was that of being opposed to the Idaho methods of taxing aviation gasoline and licensing aircraft. After having flown over the greater part of the State and viewing the work of your department I wish to state that I am heartily in accord with your program and wish my own state, Montana, would adopt a similar program."[58]

A well-known and respected sales executive of one of the outstanding motor manufacturers of the world, writes,

"We feel safe in saying that any aids that the State could give in the matter of establishing landing fields, weather service, and air marking in coordination with the Federal program, would most certainly stimulate private and commercial aviation to an appreciable extent in those states which have the foresight to foster as much as possible, our fast growing industry. Such action will not only open the eyes of your own citizens but it will be the cause of many transient flyers to plot their course over those sections where they know good fields, weather information and service are available. Further, air markings no matter whether one is piloting himself or traveling as a passenger are welcome signs that inform one (the air traveller especially who is probably reading a magazine a good part of the

55. Dr. Sidney W. Raymond, Letter of February 23, 1933.
56. Robert McCallum, Letter of February 23, 1933.
57. Roy C. Wilson, Operator, Wilson Airport, Fairview, Illinois, Letter of February 23, 1933.
58. R. R. Johnson, Johnson Flying Service, Missoula, Montana.

time) where he is, and really this is good publicity for the community that is proud of its appearance. Markings on the highways as practiced in many states are, as you know, a great aid to pilots but perhaps do not mean so much to the passenger. More power to you for the procurement of better and better facilities all over your state."[59]

IV. Financing the Illinois Plan.

Obviously, there is hearty accord as to the benefits accruing from the provision of aeronautical facilities and services. The difficulty that arises is as to the manner of financing the cost. Funds can be provided only through private initiative or by government. In this instance, private initiative cannot effectively execute the program and, probably, cannot execute it at all. If the benefits of the plan are to be made available, they can be realized only by governmental expenditure. The federal government cannot undertake the program—due to budgetary conditions and because of possible constitutional limitations. It remain, then, for the state to assume the responsibility.

The state government may secure the necessary money either from general funds or through some special form of taxation. The proposed Illinois plan would place the financial burden on both sources of income. Thus, the state government is asked to finance the safety and general regulatory work of the Commission from general funds, and to finance the cost of the facilities jointly with local communities—through the general funds established by the municipalities and a state aviation fund provided by a two-cent tax on aircraft motor fuel. Without considering the probability that counties and municipalities will be able, generally, to reduce their share of such cost—by airport operation, it is apparent that the citizens of any community will be asked to pay but a few cents apiece each year for the opportunity of having this new form of transportation available. Undoubtedly, the plan is a good one from their point of view, and several communities have indicated their desire to proceed as soon as it is enacted into law.

The proposed gasoline tax will be paid by three general groups, or their customers. Those groups are, (1) airlines—operating regularly scheduled transportation services, (2) fixed-base operators—maintaining sightseeing, instruction, special charter, advertising, crop dusting, photographic, barnstorming and similar non-

59. Kenneth J. Boedecker, Assistant Director of Sales and Service, Wright Aeronautical Corporation, Paterson, New Jersey, letter of March 14, 1933.

scheduled operations and, (3) the private owner—using his aircraft for pleasure and/or business.

Under present economic conditions the airline operators use approximately 70% of the fuel consumed in aviation where the fueling is done in Illinois. Under present conditions then the first group (scheduled operators) would pay 70% of the tax. While no detailed figures are available, it is believed that the second group (fixed-base commercial operators) would probably pay half of the balance—leaving 10% to 15% of the tax to be paid by private owners. It is the opinion of our Commission that this is a temporary and artificial distribution of those percentages. We believe that, in normal business conditions with the present development of aviation, the scheduled operators would pay approximately 50% of the tax with the remaining 50% split 20% for fixed base operators and 30% for private owners. We further believe that, as the art progresses, the private owner operation (and hence his percentage of the tax collection) will substantially increase. The same should be true of fixed-base operators, thus lessening the percentage of total collections paid by scheduled operators.

The vice-president of one of the outstanding air line operators said early last December,

> "It has been found expedient in most states to raise the funds necessary for aeronautical development by means of a gasoline tax. If the gasoline tax is the answer to the question and it seems to be at the present time, then * * * funds thus accumulated should * * * be set aside * * * for the development of aviation within the State."[60]

A number of the aviation executives and pilots, both in Illinois and in states where aviation fuel taxes are now collected, approve both the plan and the tax in their quoted letters. There is not the unanimous voice in *opposition* to the *tax* plan, even in Illinois, that is raised in *favor* of the *provision of the facilities and services.*

The completion of the program as outlined would materially benefit the public and the entire aviation industry. Citizens would have this new form of transportation at their front doors instead of over the chimney pot. *Airline operators* would have more (and more useable) intermediate fields; location, obstruction, and directional markings; weather reporting services; and the stimulated volume of business which history proves comes from the provision

60. P. A. Wright, Vice-President, Trans-American Airlines Corporation. Address delivered before National Association of State Aviation Officials at Annual Meeting, Nashville, Tennessee, December 2, 1932. The complete address is printed in this issue of the JOURNAL, starting on page 212.

of such facilities. *Fixed-base operators* would have additional places to go, new opportunities for special charter, barnstorming, instruction, advertising, and other types of industrial flying. *Private owners* could use their aircraft more safely and more generally for business and pleasure. *Manufacturers* of aircraft, motors and equipment would have an enlarged market. *Unemployed pilots* and *mechanics* would have a chance to get work. This would all be made possible by the collection of a small tax, related directly to the use made of aircraft.

A very substantial percentage of aircraft costs are in fixed annual charges such as hangar rent, insurance, obsolesence and overhead. Any increase in the use made of an aircraft would spread those fixed annual charges and reduce the cost of operating per mile. Similarly, any increase in the pay load of an aircraft now operating at or near its maximum hours per year would improve the ratio between gross income and operating cost. Aircraft costs and pay load volumes are such that but relatively insignificant increases in use or load would absorb the proposed gasoline tax. It is not unreasonable to anticipate sufficient improvement to more than absorb the tax.

Certain proponents of the plan object to its advancement at the present time. They wish to await business recovery. The plan offered in this paper is premised not only on public benefit, but on *direct, profitable volume increases for operators.* The development of such operating benefits would aid the aviation industry to grow more rapidly. That would react throughout all industry, and would be a genuine contribution towards general prosperity.

The industry generally approves the plan for the facilities and services. The tax on aircraft motor fuel is the only way to complete it. Such a tax will be readily absorbed by resulting increased volume and has support from a distinct part of the aviation industry. It is good business for the aviation industry and it holds real promise for all citizens of the state. Now is the time to put it into effect.

STATE AIDS TO AVIATION*

PAUL A. WRIGHT†

Since the Lindbergh flight in 1927, aviation in this country has made immense strides toward objectives which were beyond our fondest conceptions at that time. Unregulated and uncoördinated individual flying has been far surpassed and superseded by the intensified development of scheduled air transport operations. With the advent of the commercial air mail contract a group of transport operators have come into existence, flying day and night schedules with increasing regularity. In 1929 these operators provided fast, comfortable cabin equipment capable of transporting both passengers and mail in place of open cockpit mail ships which they had theretofore been flying. When the present administration evolved this basic plan in 1929 for the carrying of passengers on air mail lines, it struck forcefully at the keynote of successful air transportation. Let it not be overlooked, however, that many airlines are conducting scheduled and highly efficient transport operations without mail contracts. It is with a view to the needs of all these transport lines that I discuss the question of State Aid.

Much has been said, ever since the first meeting of this association in St. Louis, with regard to the adoption of a uniform code of laws and with regard to the coördination of regulatory policies in each of the several states so that interstate operators can function with the greatest efficiency and with the least amount of embarrassment. I feel that this association should be commended upon the steps which they have taken to secure this uniformity, although I wish to point out that we have not as yet reached the ultimate goal, by any means.

If such coördination would resolve itself into an adoption by each of the several states of a policy of recognizing the licensing of both pilots and ships by the Federal Department of Commerce—I feel that we would at least have gained the first step. Due to local conditions, it may become necessary to somewhat augment the Federal regulations—but with them as a basic policy coördinating the activities of the various states with the Federal Department of Commerce we shall at least have found common ground

*Address delivered at the Annual Meeting of the National Association of State Aviation Officials, Nashville, Tennessee, December 2, 1932.

†Vice-President, Transamerican Airlines Corporation.

from which both the Department of Commerce and the various states can develop their regulatory policy.

It has been found expedient in most states to raise the funds necessary for aeronautical development by means of a gasoline tax. *If* the gasoline tax is the answer to the question, and it seems to be at the present time, then let me assure you that funds thus accumulated should, by all means, be set aside in a special depository, outside of the general tax fund, to be used for the development of aviation within the state. Inasmuch as the bulk of these taxes are of necessity paid by the scheduled air transport operator, because they use most of the gasoline, the voice of the air transport operator should carry considerable weight in solving many of the problems which come before the State Aviation Commission. In Michigan, the gasoline tax is 3c per gallon—one and one-half cents of which is refundable on all interstate operations. We feel that such a refund is entirely right and proper. Because of the tremendous volumes of gasoline which is used up in flying our ships to points lying outside of the originating state, a 50% refund of the tax money is entirely as it should be.

The question immediately arises as to what should be done with this money. For the most part, the states which have acquired money, either by taxation or appropriation, should quite rightly spend this money in the leasing, conditioning and maintenance of intermediate landing fields along the more popular airways and for the construction and maintenance of intrastate airway beacon systems. In some cases this has been done.

The United States Department of Commerce, by federal appropriation, has created approximately 19,500 miles of lighted airways which are the envy of the rest of the world. To quote Col. Clarence Young of the Department of Commerce:

"This includes lighted intermediate landing fields, radio communications, teletypewriter circuits, whether reporting services and radio beacons, together with trained personnel to operate and service this equipment."

Like all governmental aid given to a new industry, the prospect of the continuance of this aid brings us to only one conclusion—it will continue, but on a receding scale, instead of on an increasing scale. We have found this to be true in the matter of federal air mail contractual rates. Last year, though Transamerican Airlines enjoyed a large increase in passenger traffic, this was more than offset by the decrease in mail income.

To further add to the burden and worry of making our operation a paying investment, we have come face to face with the question of the state taxes—gasoline and others. I am very happy to say, however, that the Michigan state law has established an excellent precedent in that it puts this money aside in an aeronautics fund specified for the development of aeronautics within that state. One of the commendable things that the Michigan state administration has done is to take over the operation of the intrastate beacon system which was set up by our company back in 1928.

Where a scheduled air line operator is flying intrastate and is paying taxes to the state, we feel that navigation aids to be installed by the state, can be reasonably expected. Where such an air line crosses the state line, we feel that both states involved should erect the necessary aids to navigation along these routes coördinating their activities one with another so that the greatest possible good may result.

For example, there is an air line which has been operating since 1929, interstate from Buffalo, New York, to New York City. It traverses three states along its route. The Federal Government does not have sufficient money to light this airway, although it seems to be a logical route between its terminal points. Therefore, I believe that it is entirely right and proper for the state of New York to establish a lighted airway along this route to the point where it crosses into Pennsylvania; that Pennsylvania should, in the interests of aeronautics, pick up this line at its state border and conduct it, by lighted airways, to the state of New Jersey; and that the state of New Jersey should coöperate and coördinate its activity with the other two to complete this line into Newark. There are many such lines in the United States, some of which have existed for a long period of years without aid of any kind from the states in which they operate.

Another good example is a line which operates in the states of Montana, Idaho, and Utah. Still another is the route which runs between Omaha, Nebraska, and Watertown, South Dakota. Both lines conduct an interstate business and, as such, can, I think, reasonably expect state aid such as recommended above.

The Department of Commerce is facing a continually diminishing appropriation from the federal government. Therefore, I feel that each state is entirely justified in bolstering up and augmenting with the state, sections of the federal airway already existent which the government can no longer afford to maintain.

Now, just a few words about intermediate fields. Some of the intermediate fields constructed by both the Federal Department of Commerce and the State Aviation Boards are excellent landing fields; sufficient in length, breadth and lighting facilities to afford safe landing for the largest transport equipment. That is fine!—as far as it goes, but it does not go far enough, because in many cases these fields are entirely inadequate for present-day equipment. The development of the commercial airplane is progressing normally. The constant cry of the flying public is for greater speed, greater comfort and lower rates. The problem of the transport operator, in order to meet this demand, is to create equipment capable of carrying a greater number of passengers so that the fares may be lowered; to provide greater speed so that more frequent schedules can be operated, thereby bringing the maintenance cost per mile to the lowest possible figure. Fields which were adequate in 1929 for the single engine, open cockpit mail ship to land at the speed of 50 miles an hour, are entirely inadequate today for a 15-passenger transport ship loaded with human beings, express and mail, landing at 70 miles an hour. Please do not misconstrue this as derogatory to the work of the Department of Commerce. It is anything but that, but with the transport lines paying in large sums of money every month to the states as gasoline tax and other forms of taxation, I feel that it is entirely within the scope and intent of the basic law, under which these commissions are created, that the state governments should enlarge and augment already established federal intermediate fields where necessary.

The adoption of a policy arbitrarily stating that intermediate fields on federal airways shall be maintained not closer than 50 miles from each other, is about as sound as a doctor prescribing a particular medicine for one person and saying that it will cure all patients regardless of the nature of the disease.

To be sure, there are certain sections in the United States where intermediate fields 50 miles apart and airway beacons 15 miles apart, are ample and sufficient. On the other hand, there are other places, which, because of local atmospheric or terrain conditions, require emergency fields 20 miles apart and airway beacons 10 miles apart for the safe conduct of flying operations.

In the case of many cities whose municipal airports are located close to the city proper, approaches and take-offs to and from these fields are hazardous, especially in low weather and at night because of the lack of available landing areas within the city limits. Detroit City Airport is a very definite example of such a case. It

has been found that open areas in the proximity of, and along the course followed by incoming and outgoing aircraft, are available for development as strictly emergency landing areas and are, in no sense, landing or intermediate fields. Strips of land, in some cases 300 to 500 feet wide and 2,500 to 3,500 feet long, have been found available to make over into landing strips within the city proper. By the use of welfare labor (which is plentiful in Detroit, as well as in every other large city) these areas have been cleaned up, well marked, and are made available for landing purposes. The appearance and value of such land which, instead of standing idle, serves the useful purpose of a landing area within the city itself, are, without a doubt, enhanced. I suggest that such a development be seriously considered in all the larger cities in the United States, where, no doubt, vacant property which is now an eye-sore and a liability can very simply and very economically be cleaned up, revamped, and changed into an asset and potentially useful landing area.

If the states will use the money made available to them by the flying public within the state, together with the funds from their biggest contributor, the scheduled air transport operator—then they can come to the aid of the federal government within the boundaries of the state and we will soon find that instead of an individual motive being served, the various branches of government will be so coördinating their activities as to give a sane and practical aid to the aviation industry as a whole.

Although the Federal Department of Commerce is to be most highly commended on its weather reporting system on which many thousands of dollars are expended every year, it cannot be expected to meet the local requirements in each case caused by peculiarities of terrain or weather within each state in the union.

Following the same thought of coördination, therefore, we feel that state-operated weather report systems, taking care of the bad spots within the state, are entirely right and proper and within the meaning and scope of the laws under which these state commissions function. Here again the state of Michigan plans to create an intrastate weather reporting system so coördinated with the Department of Public Safety and police radio that 30 minutes before any scheduled air airliner leaves its terminal it receives from the state government a special report covering the dead spots along the route over and above the regular federal weather report. The police radio immediately rebroadcasts on its low wave this late weather information which is picked up by the government station

and it, in turn, rebroadcasts to all ships in the air. Thus the state of Michigan will maintain one of the most complete and comprehensive weather reporting systems in the country.

New York State, I understand, has an elaborate and efficient weather reporting system—I recommend that every state develop this aid to the industry.

Many states have made considerable progress in the matter of road and town marking. Some time ago the National Exchange Clubs put their shoulders to the wheel and helped with this problem which is so vitally important, not only to the scheduled transport operator but also to the itinerant flier. In bad weather, and even in good weather when flying over strange country, road markings and buildings in small towns conspicuously marked, are a most welcome sight to all of us who fly. Smaller towns should, by all means, be well marked.

Sometimes there occur unusual hazards along airways far removed from cities or towns which should be lighted and properly air-marked if they lie in the proximity of the airway. There are occasions of peculiar terrain conditions lofty stacks on isolated factories which create unusual hazards and give rise to a problem which is entirely a state problem and which should be marked in the interest of public safety for both day and night aircraft operations.

In many communities the airports themselves have been allowed to deteriorate to the extent that the airport markings have been virtually obliterated. Proper boundary markers and the circle in the center of the field, together with various other well-known markings for an airport, even though it be a small one, should be encouraged by the state even to the point of having the state maintain, if necessary, such markings in a good and useful condition. Here, again, by coöperation with the municipalities themselves, welfare labor can be used for this purpose reducing the cost to the state government and, at the same time, giving employment to many men.

There is still another activity which the state could enter into and one which would greatly help to decrease the hazards of flying. This is the publication and circulation of accurate state maps. This seems to be peculiarly a state function. Certainly no other responsible organization can be looked to for this vitally important information. These maps should be issued at regular intervals and they should be kept up-to-date if they are to be of service to airline operators and to itinerant flyers. Obviously, a state map

should include complete information as to airports, ground elevations, and general terrain characteristics.

There are some very definite trends in the development of aviation aids which, whether we like them or not, we must candidly recognize. For example, the government cannot continue to construct and maintain exclusively within federal appropriations, a sufficient and practical net work of airways such as this transport industry does now and will in the future require, any more than it can afford to build highways in the various states to the exclusion of financial aid of the states themselves. I predict that as time goes on, and keeping in mind the tendency to constantly decreasing appropriations for airway and other purposes, the states will gradually find it necessary to take over with their funds, sections of what now constitutes federal airways in order to maintain and augment these sections within their own state boundaries. It is true that the federal government, without the aid of the states, constructs and maintains the rivers and harbor systems of the country, and I should like to look upon the federal airways with that analogy in mind rather than the analogy of the highway program. Yet I predict that the airways will continue to increase in mileage, number of routes, and operations, but at the same time, the federal appropriations will diminish and the only bridge for the gap which will inevitably occur, will be the gradual absorption of these costs by the various states themselves.

Whatever the functioning body may be in the various states for the handling of the aeronautical problem, it should, by all means, be non-political in its make-up and its functions. A State Board or State Commission where the members are appointed by the governor of the state, such appointment should be staggered over a period of years in such a way that new personnel on that board can be appointed when necessary, but only in such small ratio to the whole board that changing administrations politically will not be able to overthrow the work previously planned and set out by the board appointed by the previous administration. For instance, if the board were to be made up of five members, let one be appointed for one year, two members for two years, and two members for three years and all subsequent appointments to be for two years. At the expiration of the term of the first members, only one re-appointment would be available and, if the administration changed, no appointments would be available for another year at which time only two of the five members of such a board would be appointable. This is particularly necessary with the

development of aviation going steadily forward and, because of the technicality of the art itself, the functioning body governing the policies within the states should be non-political in character and should be able to make its plan and proceed with its development unhindered by personal prejudices or favors.

A State Board of Aeronautics becomes, by the very nature of its being, a member of the official state family of boards and commissions, and, of course, has the free and hearty coöperation of other departments of the state government. Almost without exception, we find that the aviation boards have been able to secure helpful coöperation from the Department of Public Safety, the Highways Departments, the Legal Departments, and the various other functioning bodies of the state government in the conduct of their work.

With that thought in mind, I turn to an item which may, to the average observer, be considered of very small importance. Many of you in this meeting fly your own ship; I fly my own ship and I have more than once, in circling a field, shuddered when I glimpsed the unnecessary obtacles which create hazards around the boundaries of both emergency and municipal landing fields. There is a saying among old-time fliers that if you are lost and cannot locate the airport, find the high-tension line, and it will usually take you to the edge of the landing field. This is a most unfortunate state of affairs, which I am glad to say is being rectified in many cases. I believe that the State Boards should give every consideration to helping municipalities, and they should call upon other state departments for help if necessary, in eliminating all possible obstacles around landing fields. I have in mind one case where a farmer owns land on each end of a municipal airport. A group of trees on this farmer's land lies exactly in the center of the runway about 100 yards off the boundary of the field. Transport planes landing at night, loaded with passengers, find it necessary to come in *high* to avoid those trees. Though the airport itself is entirely adequate to handle night landings, this particular obstacle makes it a vivid experience for pilot and passengers every time they land. For sentimental reasons, the farmer, up to the present time, has not allowed any one to purchase, destroy, transplant, beg, borrow or steal those trees. After an appeal to the State Commission the matter was referred in a most kindly and coöperative spirit to the Department of Public Safety. The state police will, no doubt, by some means, acquire a group of tall trees in the very near future.

There is a very interesting experiment being conducted in the state of Illinois concerning which we hope to hear more at a later date, after exhaustive trials have been completed. This is the matter of high-tension tower lighting. The only satisfactory obstacle lights on the market today for high-tension tower lighting are prohibitively expensive. I am informed on very good authority that an inexpensive light has been devised in the state of Illinois, by the use of which the State Commission can afford to mark every tower on every power line where it crosses, parallels or comes anywhere near an established airway. I think this is one of the state's important functions in aiding flyers.

We all look for aviation in its various branches to continue to grow. The old hackneyed phrase, "Air-Minded," has long since passed into shopworn disuse, but the thought is still there. The individual charter and taxi operator, because of depressed economic conditions, is undoubtedly suffering a set-back in business which, as in all business, is, of course, temporary. The answer to the fact that aviation has progressed in spite of economic depression and has grown from an infant in swaddling clothes to a robust industrial child, is the result of one important work. That is the education of the general public along safe and sane lines to the realization that the airplane is a commonplace, yet practical and efficient instrument of our daily lives. Every man who carries passengers for hire, confidently looks forward to the day when he can carry more passengers than he is carrying today. Every scheduled air transport operator in the country spends many thousands of dollars in the solicitation of traffic. It is one of the major items on the program of every airline organization.

Therefore, I feel that state aids should not be confined entirely to the operations phase of aviation. If possible a means should be devised to provide for state-wide, state-sponsored and state-supervised educational campaigns in the public schools. The youth of today should be taught the fundamentals of aviation to a degree that he is informed on the subject. When he grows into the business man of tomorrow, flying will be an old story to him, and he will travel by air with no more mental anxiety than he now has when he uses older means of transportation.

You have heard from every side, cries of depression and financial stringency. It has been the subject of hundreds of books and orations. It has been the subject of endless conversations. It is very true that many of the municipalities throughout the United States for one reason or another, are in serious financial distress.

When financial illness besets a municipality the reactions are the same as yours and mine when the same type of illness affects us personally. We immediately look to the elimination of all unnecessary expenditures. Because, in many cases, a group of enthusiastic and broad-minded business men have perhaps oversold the airport idea. We find that many communities, large and small, have long since expended all their funds on airport projects and have left nothing for maintenance and development. Now we find too general a tendency on the part of municipalities, who do not understand the importance of their airports, to eliminate this expenditure from their municipal budgets. Much of my time as vice-president in charge of the Business Relations of the Transamerican Airlines Corporation is spent in conferences with municipal authorities, pointing out to them why and how their airports can be kept open and operating.

In cases of financial emergency of this type we feel that it behooves the states to design some method of relief to the municipalities who already have airports established within that state. Municipalities who have expended large sums of money for airport development and who now find themselves served by transport airlines, can, I feel, rightfully look to the state for financial aid in the maintenance of those airports even if it means the entire cessation, temporarily, of out-of-state airport development by the State Board and the further progress of expansion programs which may be considered expedient by which such an emergency arose. In other words, rather than carry on a program for the years to come it may be necessary to stop a little and help maintain that which is already created and which every day becomes a more and more important link in the transportation systems of this country. This, it seems to me, is one of the most important aids facing the various states just at the present time. The first one to which the municipalities turn for financial aid in cases of this kind are the transport operators using that airport. To a degree, that is at it should be, but when the charges for the use of such airports, because of financial stringency, mounts to such an exorbitant scale that the transport operator cannot afford to use that airport any longer, then he must eliminate that stop on his line and to that degree decrease the value of the line. We must bear in mind, at the same time, that this same operator cannot hope to survive even though the state develops the most comprehensive system of airways conceivable, if they will do him no good. The operator, gentlemen, cannot carry the whole load. There is not a trans-

port operator, to my knowledge in the United States, who has ever paid a dividend on his stock. A large majority of them will show an accumulative loss year by year. Add to those losses increased overhead, such as airport fees, increased airport rentals plus increased taxes and, to top it off, a gasoline tax, and the answer is perfectly self-evident. It behooves the states to coördinate their activity to the greatest benefit to the greatest number of people and, certainly, at this point in our industry, the air transport operator occupies that position.

If it becomes necessary, and the gasoline tax brings in insufficient money to carry on in the face of such emergencies, then they should appeal to the state legislatures for appropriations from the general fund to relieve the aviation fund of such items as law enforcements, etc., which aids are provided for for every other industry in the country except aviation. We, as an industry, are paying the whole bill exclusive of the general fund in many cases, and I feel it quite right that the state legislatures should aid by appropriation and augment the funds for aeronautics in proportion to the importance of that industry within that state.

I have tried to outline to you a few of the basic principles and problems faced by the state administrations in this very important matter of state aid. The aviation industry has been and we hope will continue to be supported by the federal government. However, the various states must have a place in the future regulation and supervision of the industry. I call upon you, therefore, to bear in mind the underlying thought of everything I have said to you here today, and that is—let us build for a cordial and intelligent coöperation—state with state, and state with federal government—keeping in mind the paramount needs of the industry.

AIR MARKING IN OHIO*

FRED L. SMITH†

Ohio has, in General Code Section 6310-44, the first mandatory municipal air marking law in the world. This law first became effective on June 25, 1929, and provides for the compulsory marking of all incorporated places in the state. It reads in full as follows:

"The legislative authority of each and every municipality in the state of Ohio shall cause said municipality to be marked for aeronautical purposes, and maintain such marking, subject to and in accordance with law and such rules and regulations as may from time to time be made by the director of aeronautics in that regard, the costs thereof to be paid from the general fund. In the event of a failure on the part of such legislative authority so to act, and sixty days after notice requiring such marking or the maintenance thereof, duly served by the director of aeronautics upon the clerk of such municipality, said director of aeronautics may cause such marking to be effected or maintained, and charge the cost thereof to such municipality, which shall in no case exceed the amount of $50.00 per marker. It shall then be the duty of the taxing authority of such municipality to include the cost thereof, in accordance with the duly certified statement of costs filed by the director of aeronautics with said body, and the auditor of the respective county, in the next succeeding budget of said municipality; and the budget commission of the county shall allow the same without deduction, and insert it in such budget in case it be omitted, and it shall then be the duty of such county auditor to withhold such amount from the first semi-annual tax collection and remit same to the said director of aeronautics."

STATUS OF AIR MARKING IN OHIO

The results that have been accomplished since June, 1929, have been most gratifying. In spite of the fact that no pressure has as yet been brought to bear on any municipalities, except to remind them of the content of the law, our records show that practically all of our larger cities and towns are suitably air marked. The following table shows the exact status of air marking in Ohio, as of November 21, 1932:

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*Paper presented at the Annual Meeting of the National Association of State Aviation Officials, Nashville, Tennessee, December 3, 1932.

†Captain Smith is Director of Aeronautics for the State of Ohio.

Population	*Total Municipalities*	*Excused*	*Marked*	*Unmarked*	*Percentage marked out of total Municipalities*[1]
Over 5,000	109	8	97	4	96%
2,000-5,000	91	10	73	8	90%
1,000-2,000	133	7	105	21	83%
500-1,000	197	9	148	40	78%
Less than 500	323	36	167	120	58%
TOTALS	853	70	590	193	75%

Most of the "excused" municipalities are those which are so located with reference to larger metropolitan centers as to make their separate identification from the air practically impossible. The marking of such municipalities is considered not only useless, but perhaps even confusing. For instance, a marker on the village of Bratenahl, which lies along the shore of Lake Erie not far from downtown Cleveland, would not only be very hard to locate but, if seen by a transient pilot, might confuse him as to the identity of the larger center. In the case of some of the smaller municipalities, some of them have been excused because their population was below one hundred and hence the marking would result in a considerable burden to the individual taxpayers.

It might be noted here that no special effort has been made to cut down the number of unmarked towns in the various groups. It might have been possible to have had a perfect record on the cities of over 2,000 population, if this data had been compiled earlier. However, you are getting the data just as it is at present.

A brief glimpse at the table will indicate where the problem in universal air marking lies. Naturally, if it is possible to get 85 per cent or more of the towns of over 1,000 population marked without any pressure being brought to bear, it should be easy to get the others lined up by a little extra effort. It can be seen, however, that the marking of the smaller towns presents a very different problem. We have had replies from a large number of the smaller towns indicating that the present state of their finances is such as to preclude the possibility of any expenditures of municipal funds for air marking, either now or in the near future. Because of the present economic situation we have not felt it fair to press these smaller municipalities unduly. Whether or not we can fairly expect them to carry this load is something which can only be answered with the return of normal business conditions.

1. Excused municipalities not included in "Total Municipalities."

In checking the air markers on the larger cities, it has been found that a great many industrial concerns have not only been willing to allow the use of the roofs of their plants but, in many cases, have gone to the expense of constructing air markers themselves. In fairness to the smaller municipalities it should be noted that many times the larger cities which may not need the assistance are spared the expense of having to construct markers in order to comply with the state law.

Special mention should be made of the activities of such nation-wide distributing organizations as the Shell Petroleum Corporation and the Standard Oil Company. The markers erected by the Shell company are especially valuable due to the easy identification of their location because of the prominence of their bright orange colored storage tanks. In checking Ohio's air markers I have gotten into the habit of looking for Shell storage tanks and then looking for the markers themselves. The fact that these signs are sometimes rather small does not detract in the least from their usefulness. In Ohio, the Standard Oil Company of Ohio did a very valuable piece of work in air marking when they placed the name of the municipality on the roof of each of their bulk stations throughout the state. These two oil companies have been outstanding leaders in helping us with our air marking program, although there are a great many individual concerns in the various cities of Ohio which have been just as enthusiastic and active in constructing their local markers.

In discussing the effectiveness of our air marking program with pilots about the state, we were led to make an investigation of the number of towns present on various kinds of maps used in aerial navigation in order to explain just why it was that so many villages which look rather conspicuous from the air still remain unmarked. As you will note from the wording of the Ohio air marking law, we can compel the marking only of incorporated places, of which there are 853 in Ohio according to the 1930 census. In checking over the Rand McNally Standard Air Map of Ohio we found the names of 3,624 cities and villages. Even if our air marking program was one hundred per cent effective, a pilot wending his way across the state would be apt to become somewhat disgruntled at finding only one out of every four or five towns or villages marked. Personally, I feel that a map such as the Rand McNally has entirely too much detail on it for aerial navigation. The total of towns and cities on Air Corps and Department of Commerce strip maps, which practically cover Ohio,

will support my contention. We found that even on the strip maps, from which a great many towns have been omitted, there are approximately 1,500 cities and towns shown in Ohio. Even on these maps there are twice as many places shown as there are municipalities from which we can require marking.

The Construction and Maintenance of Air Markers in Ohio

In advising municipalities concerning the construction of air markers, we have recommended in every case that they follow the instructions contained in Aeronautics Bulletin No. 4 issued by the U. S. Department of Commerce, Aeronautics Branch. We have made some exceptions in the case of municipalities which had no buildings large enough to accommodate markers of even the minimum size. We did not find it necessary to issue any additional regulations other than those set down in Bulletin No. 4.

A study of the air markers which we have photographed will show, of course, some discrepancies between the type of markers recommended and those which have been constructed. On the whole, however, I think you will find that the markers indicate an almost universal willingness to comply with the federal standard requirements. Where discrepancies occur, they have usually been due to lack of skill or to a peculiar interpretation placed on the instructions by the individual painters assigned to these jobs.

The State Highway Department, which has constructed a number of markers, both on state highways and on their service garages about the state, tell us that the average cost of markers placed on the highways was about $35.00. The name of the city or town was printed out in letters twenty feet high. This cost included two coats of traffic paint as well as the entire cost of the labor necessary for the original layout. Repainting these signs costs approximately $12.00 per marker. It is probably fair to assume that the cost of construction of the average roof marker would be about the same, even though the letters might be somewhat smaller.

Now that the State of Ohio has a great many markers constructed, we find that we have another job to do in checking the maintenance of these signs. Naturally, when roofs are refinished entirely the air markers are destroyed. Furthermore, on a great many of the roofs the letters may disappear rather suddenly due to the bleeding through of the asphalt. Proper sizing of the roof

surface, as outlined in the Aeronautics Bulletin, will eliminate this difficulty.

We do have somewhat of a problem to get a report on the legibility of these markers from time to time, especially from towns in those sections of the state where air travel is not particularly common. It is somewhat difficult to persuade municipal authorities to climb up on roofs to check their local markers, and then to report their condition to us with any regularity!

I think that perhaps the checking of the markers is a distinct function of the Bureau of Aeronautics, although I will grant that it is quite a task to visit and check the markings on eight or nine hundred towns annually.

In Ohio we are using a form for reporting air markings, copy of which is attached to this paper, on page 231.

Types of Air Markers

As to contents:

Aeronautics Bulletin No. 4 stresses simplicity. A plain, legible Location Marker is of course most important. Meridian Markers are desirable, but may be dangerously misleading when not constructed accurately. You can appreciate the inaccuracies which may exist when a well-meaning individual attempts to paint a Meridian Marker on a slanting roof with the aid of nothing but a pocket compass, especially when the building does not lie in a true north and south or east and west direction.

As to the Airport Pointers, these have not been stressed in Ohio particularly because of the lack of permanency in the location of private, commercial, and even intermediate landing fields. The situation along the lake shore east of Cleveland is typical—where the Department of Commerce has abandoned at least three different fields and has finally located a fourth one which may or may not be permanent. Naturally, an Airport Pointer which indicates the direction and distance to a field which has been abandoned is useless and may even be dangerous. We believe that pilots who expect to use the smaller fields will have to learn to use the information which is made available to them by the Bureau of Aeronautics, or by the Department of Commerce in their bimonthly air commerce bulletins which describe changes in airports and landing fields.

We have, in Ohio, made some use of markers on the surface of highways. These were placed at the outskirts of various towns,

and gave the name, direction of, and distance to nearby cities. At the present time we do not feel that such markers are quite what the pilot needs. In the first place, they do not tell him just where he is; and, in the second place, while they may indicate the direction and distance to a certain town, it is by no means certain that he has any desire to go there.

As to location:

Surface markers may be considered quite acceptable when no building is available on which to construct a suitable marker. Those shown in the photographs[2] are typical. The marker along the railroad tracks, showing the direction and distance to Port Columbus, would be a very distinct aid to the pilot who relies upon the "iron compass" (the railroad) exclusively. The Fort Laurens marker, constructed on a hillside, is very easily picked up. The "Akron" air marker on the edge of the Akron Municipal Airport is perhaps the largest surface marker ever constructed; the letter "M" above the name is eighty-five feet high. The city of Troy, Ohio, has constructed its municipal marker in a city park, where it is kept in very good condition. The bridge marker at Napoleon was constructed by laying the letters in the pavement of the bridge, using a light colored brick.

Our State Highway Department constructed, altogether, about 140 markers on the surface of the state highways in the vicinity of the larger centers of population.

All of these surface markers are subject to criticism on several counts. First of all, in the winter time—in Ohio, at least—they may be covered with snow for rather extended periods of time, and hence may be hard to read or even completely obliterated. Secondly, as any pilot will tell you, the surface type marker is very hard to pick up unless you are almost directly over it, and hence a pilot may mill around very close to such a sign without finding it. And thirdly, when placed upon the highway, the cost of maintenance is excessive, due to the wearing away of the paint by a continual stream of automobile traffic.

The main advantage of such markers lies in the fact that they can be checked up from the ground, and hence are apt to be kept in much better condition than are the signs which are located on the roofs of buildings where they are seldom seen except by the

2. The photographs used by Captain Smith in connection with this paper have been here omitted.—[Ed.]

passing aviator. Markers constructed on the roofs of buildings are not only easier to see, but if a conspicuous building is selected for the marker a pilot need not waste any time in finding the building on which the information he desires has been placed. Personally, I think that a rounded or sloping roof is much more suitable for marking purposes than many of the flat roofs which have been used, especially when a high coping has been placed around a comparatively small roof surface. We have several markers which will illustrate this contention. Some of them are almost indiscernable due to the fact that the marking is shaded practically all day long, especially in the winter time. The photograph of the Brooklyn school marker shows how the coping may make it difficult to read the sign. Although the picture was taken from almost overhead, the coping cuts in a little bit on the lower edge of the letters.

The use of a sloping roof also makes it possible to check a marker from the ground and, hence, may remind the municipal authorities from time to time of the need for maintenance when the sign becomes a little bit shopworn.

Recommendations as to Air Marking

After a year's study of various types of air markers, we feel that the Department of Commerce procedure should be followed wherever possible. We think there are one or two things which might be added to their bulletin, however, which might make it somewhat easier for the pilot to locate air markers.

(1) It is recommended that, wherever possible, the markers should be constructed on the south side of hip roofs, when such roofs are used, for two reasons: (a) that in the northern hemisphere a pilot will then be reading the signs with his back toward the sun, which of course will make them more readily legible; and (b) that when buildings are not heated in the winter time, snow is melted off from the southern slopes of their roofs much more quickly than it is from the northern sides, and hence the markers will be exposed to view many more days out of the year. The Shell Oil markers at Bellefontaine and at Mansfield (shown in the photographs) face in a northerly direction, so that even in the pictures they do not stand out as prominently as they might otherwise. The Shell markers at Sandusky and Newark face south and are, as a consequence, very much more easily read. It might be noted further that the marker at Newark is

one of the few remaining Shell markers with their old color scheme of red lettering on a gold background. The marker is actually much clearer than the photograph would indicate.

(2) Our recommendation is that, wherever possible, markers should face the outskirts of the municipalities they identify, when they are located near the outer limits of the built-up areas, so that they can be read by the passing pilot without his being required to fly over the downtown areas in order to get a good look at the markers.

(3) Wherever possible, buildings which are heated during the cold weather should be used, so that accumulations of snow and ice will not hide the signs for extended periods. In this connection we have been recommending the use of school buildings, not only because they are heated and have large roof surfaces, but also because they are the most conspicuous buildings in many of the smaller communities.

How an Air Marking Program Can Be Initiated and Completed

Our experience in Ohio makes us feel that the law requiring the air marking of at least all of the incorporated places in the state has been a very distinct help, even though we have never had occasion to use it except as a reminder. We believe that the use of as many different agencies as possible should be resorted to if the program is to be entirely completed. Among these are:

(1) The State Highway Department—which, by marking its garages located in every county of the state, can provide a very fine nucleus about which to build.

(2) The State Adjutant General's Department—which can be prevailed upon to air mark its armories, which are also located at many points about the state.

(3) The State Department of Education—whose good will is necessary in obtaining permission to use the roofs of educational institutions throughout the state for air marking purposes.

(4) Other state departments, such as the Department of Public Works and the Department of Public Welfare—which should be quite willing to cooperate by air marking the buildings under their jurisdiction, except in cases where such marking would detract greatly from the general appearance of the buildings as seen from the ground.

(5) National distributors of various products, such as oil and gasoline, tobacco, and so on—which are all organizations which can and have been supporting air marking programs wholeheartedly.

(6) Airport owners and operators—who, of all people, should be quite willing to do everything possible not only to mark their airports properly, but also to see to it that suitable municipal markers are constructed in the vicinity of their airports.

(7) Chambers of Commerce, Exchange, Rotary, Kiwanis, and Lions Clubs, American Legion posts, and other such organizations—which have always been ready and eager to do their bit in the furtherance of our air marking program.

In addition to the agencies above mentioned, there are others which we have not yet contacted in Ohio, such as the railroad companies, which by this time are beginning to accept the airplane as an ally in the transportation system, rather than as an enemy.

APPENDIX: AIR MARKING REPORT FORM

State of Ohio
Bureau of Aeronautics
Columbus

REPORT OF AIR MARKING—G. C. SECTION 6310-44

Name of Municipality.....
County.....Longest dimension of municipality.....
Population .....If a suburb, of what municipality?.....
A. Date of air marking.....
Agency responsible for maintenance.....
Lay-out of marking: (Give rough sketch showing spelling, spacing, and position of Location and Meridian Markers, Airport Markers if included, or Direction Markers).
B. Location of air marking:
Building.....Street address.....
Section of city .....Type of roof.....
C. Lettering:
Height.....Width.....Thickness of stroke.....
Color of lettering.....of background.....
D. Remarks:
.....
.....
Reported by.....
.....
Date of report.....

EDITORIALS

DID THE FEDERAL GOVERNMENT ACQUIRE EXCLUSIVE AERIAL JURISDICTION TWO YEARS AGO?

I. In the Pan-American Convention on Commercial Aviation, signed at Habana on February 20, 1928, and ratified by the President on March 6, 1931, occurs the following innocent-looking sentence (Article 32): *"The contracting States shall procure as far as possible uniformity of laws and regulations governing aerial navigation."*

This clause has the appearance of a pledge, or at least a gesture, of cordial mutual intentions, by the several parties, to persuade their component States within the respective confederations to agree on uniformity of detailed regulations. But was it something more—something very much more? Was it an assumption of exclusive domestic jurisdiction over air-traffic by the Federal Government, superseding all State jurisdiction?

That is what it was, in the opinion of the able Chairman of the American Bar Association's Committee on Aeronautical Law.[1] This zealous and learned leader in air-law legislation does indeed carefully point out that the Committee itself "expresses no opinion" on this question. But he himself is "personally convinced" that the extensive proposition above advanced is sound, and that therefore the Federal Congress now has power to pass "legislation governing all aerial navigation throughout the United States."

The authority relied on for this proposition is of course the Migratory Birds decision (*Missouri* v. *Holland,* 252 U. S. 416), and a long line of precedents culminating in the clear vindication of the Federal power to deal by treaty with "all proper subjects of negotiation between our government and other nations." And, of course, the subject of commercial aviation is eminently a "proper subject of negotiations" with other nations.

II. Now we should be the last to deny or to doubt this extent of the Federal Executive's treaty power. We like the decision in *Missouri* v. *Holland.* We admire it and have always admired it. Indeed, we believe that it will some day be looked back upon as a landmark of progress in this country's international relations. We

1. American Bar Association Annual Meeting, Advance Program, 1932, Report of Committee, pp. 46-69; A. B. A. Journal, vol. XIX, p.1, p. 22 (Jan. 1933), "The Pan-American Convention on Commercial Aviation and the Treaty-Making Power," by John C. Cooper, Jr.

could wish to see the Federal treaty-power used even more broadly than hitherto,—to negotiate international bargains for oil exploitation, for example. Our only regret about that power is that because of the Federal Senate's arrogant arrogation of the right to delay and obstruct the Executive's treaty-powers for years and years (as witness the Lausanne treaty of ten years ago, still unconfirmed; witness this very Pan-American Convention, held up for three whole years, and so on),—we regret only that because of this obstacle, the Executive's treaty-power cannot be as effectively used as it might otherwise be used.

But, in the present case, while not expressing any doubt as to the scope of the abstract power, we venture to point out that the question here is, Has the Executive in fact and in law exercised that power? In the treaty sentence above quoted in italics, did the Federal Executive assume and use that power to supplant State legislation for aerial commercial navigation?

This becomes a question of interpretation. We believe that before that proposition can be maintained, certain questions must be answered.

Those questions are four:

(1) Would not *express words be necessary* if the Executive is to assume power over a new subject of vast extent and importance? Could one concede that such a power could creep in by implication only? But there are no such express words of claim of power in the convention.

(2) Do not the words actually used have a *contrary implication?* The promise is to *"procure as far as possible uniformity."* Does not this point to a process of persuading the domestic States to consent? In other articles of the Convention we find language plainly absolute —"each contracting State *undertakes,* —*shall* deposit,—*shall* exchange," etc. But here the language changes to words contingent on ability to perform.

The words used point back to a hesitation often hitherto felt and expressed by the U. S. American delegates at international conferences. For example, in 1916, at the Second Convention of the International High Commission to Latin-America,[2] one of the U. S. American delegates referred to the Federal limitations of power as the reason why this country's delegates were most reluctant to advance suggestions of any character on legal measures.

2. Committee Reports of I. H. C. (now called the Inter-American High Commission), Washington, p. 15. The undersigned was at that time, and for some ten years, a member of that Commission.

Again, at the Second Pan-American Financial Conference held in Washington in 1920,[3] the Cuban delegate, in reporting on uniform commercial law, said, "How can negotiations concerning uniform legislation be carried on with the United States, which are simply a confederation lacking *a common legislative agency* for the solution of most of the matters contained in this questionnaire?" Similar allusions abound in the records of international conferences on legal subjects,—for example, the Hague Conference of 1912 on Uniform Laws of Bills of Exchange,[4] and the International Labor Commission of 1919;[5] the latter report candidly explained that the delegates could not sign the original draft, because they could not "provide against the possibility of such legislation being *declared unconstitutional* by the supreme judicial authorities."

So, in view of this well-known and often avowed limitation upon the Federal powers, is not this language in Art. 32 of the Aviation Treaty, "procure as far as possible", to be interpreted as an allusion to that limitation? Is not the language merely a promise to exercise good offices with the constituent domestic States to persuade them to consent to uniformity? Can it be regarded as a new exercise of a power superseding the local State powers?

(3) Furthermore, would the Executive, represented at Habana by nominees of the Secretary of State, be *likely to take a radical step* of this kind without *explicit understanding* to that effect between the U. S. American delegation and their aeronautical advisers? Is there anything in the record of proceedings, or the Committee reports, which reveals such an understanding? Can anything of that purport be found?

(4) And, finally, would not this new Federal exercise of power be equally applicable in the other Federal States of Latin-America, e. g. the Argentine, Brazil, and Mexico? Presumably, our delegation would not have made such an absolute and extensive undertaking without a "quid pro quo", i. e. the guarantee of a corresponding uniformity of law, by exercise of Federal power, in those other federated nations. That being so, have those other nations indicated that they are equally so empowered, or are ready to exercise the power if they have it? Is there any evidence, in the proceedings of the Conference, or in the later Latin-American legislation, that they had that clear understanding?

3. Report of the Conference, Washington, 1920.
4. Report of the U. S. Delegate, p. 118, Washington, 1912.
5. Report by Samuel Gompers, March 24, 1919.

If not, can we afford to put that radical interpretation on the clause in question?

III. These questions, it seems to us, fairly call for an answer before the proposed interpretation can be accepted.

Possibly they can be answered successfully. Until they are, the interpretation must remain merely an interesting hypothesis.

JOHN H. WIGMORE.

THE C. I. T. E. J. A. AND LIABILITY TOWARD THIRD PERSONS ON THE SURFACE

The function and work of the International Technical Committee of Aerial Legal Experts (C. I. T. E. J. A.) are well known in America. It is, therefore, sufficient to summarize a few facts concerning this committee and its aim on one particular point.

On October 13, 1919, an international convention was signed at Paris concerning air navigation which created a standing committee known as the International Commission for Air Navigation (C. I. N. A.). This committee holds periodical meetings and deals with technical points and questions of administrative law.

The French government, being of the opinion that private law in connection with aeronautics should also be developed, invited the other governments to send delegates (jurists) to a meeting to be held in Paris during October of 1925. The object was to study at least one point of private international law—the responsibility resulting from a transport contract. This meeting was held and a draft convention was worked out. The assembled jurists expressed a wish that a committee of legal experts could be formed to study, examine and prepare a program of private international air law as a whole, and that the French government might invite the other governments to send experts, in a restricted number, to constitute a standing committee. This was done accordingly and, in May, 1926, twenty-eight nations sent their delegates to Paris. The International Technical Committee of Aerial Legal Experts was thus organized and, afterwards, nine other nations joined.

The first work of the Committee was the revision of the draft convention of 1925, made necessary by different observations from different sides—governments and the International Chamber of Commerce. It was elaborated and completed by provisions concerning the contract of transport of passengers, luggage and merchandise. The new draft was sent to all the governments concerned for study. On the invitation of the Polish government, the

Second International Conference of Private Air Law met in Warsaw during October of 1929 and, on the 12th of that month, the Convention for Unification of certain Rules Relative to International Air Transportation was signed.[1] This convention is usually referred to as the Warsaw Convention.

The second object of study of the C. I. T. E. J. A. was that of liability towards persons and goods on the surface. It is with that subject that the present article is concerned.

The general rule for liability without contract is based on the idea of fault, *culpa*. No one is bound to repair damage anyone else has suffered, to whom he is not bound by contract, unless he has caused the damage by his wrongful act or his wrongful negligence, and unless this wrongful act or negligence can be imputed to him. This is the general rule of the continental law of Europe, based on Roman law, and I believe it is also the principle of the Anglo-American law of torts.

However, this principle does not always give satisfaction. It is already an ancient rule that one is liable for damage caused by one's children, animals or inanimate belongings. To try to bring these rules under the principle of liability based on fault seems to me to be found to be unsuccessful. The basis is, rather, the idea that he who has the profits has to bear the losses, and that, as far as minor children are concerned, there is no one nearer to bear the damage than their parents. Once admitted that the principle of liability for fault is not the only principle, it is only one step to adopt a liability for those who in the intercourse of mankind create special and abnormal danger—particularly if there is no possible reciprocity.

This theory has been adopted[2] by learned authors, and in some countries in their legislation.[3] In France the Supreme Court comes practically to the same conclusion by the interpretation of article 1384 of the Civil Code.[4]

It is this theory which the C. I. T. E. J. A. has adopted in its draft convention on the liability with which we are dealing here.

Article 1 reads as follows:

(1) Any damage caused by an aircraft in maneuvers or in flight to persons or property on the surface shall give a right to compensation by the mere fact that the damage exists and that it has been caused by the aircraft.

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1. If the 13th of October, 1929, had not been a Sunday, the convention would have been signed on that date, exactly ten years after the C.I.N.A.
2. In Germany.
3. In France, regarding aircraft; in Holland, regarding automobiles, etc.
4. Liability for damage caused by objects under one's control.

(2) This liability may be reduced or avoided only in case the injured person is at fault and in accordance with the provisions of the law of the court before which the case is brought.

It is here well understood that this liability for damage caused by aéronef—which French word includes both heavier-than-air and lighter-than-air craft[5]—is based on the principle both of special and abnormal danger, and of the exclusion of the possibility of reciprocity. Protection is given the person who has to suffer from this particular danger and has no part in it—who experiences injury by objects coming down from the air on his head, his house, or his crops. But no protection is given by this article to one, who himself takes part in creating the same danger, or to one who is hurt while staying in an aerodrome—in that part of it where the general public is not admitted. For damage by collision of aeroplanes the general rules of fault or negligence are to be applied.

It is also well understood that the particular danger must arise from an act of flying—the aeroplane must be *en vol* or *en manoeuvre*, flying, starting to fly or finishing its flight. Injury caused by an aeroplane on the ground, moved by other means than those mentioned, is to be treated as harm by any other object—again according to the general rules of fault and negligence.

We see here the difference of subjective and objective: Subjective is the general rule, because the basis for liability is what one has done or not done, and with what intention or neglect. Objective is this special rule, because it deals only with the material fact that damage has been caused by an aeroplane. If the general rule should have been maintained here, it would mean that, practically, an action is denied to him who is the victim of this injury. To prove that in the manoeuvring of an aeroplane not only were mistakes made, but also that there was imputable fault or negligence is practically impossible, also for the reason that, in most cases of accident, there is no fault or neglect at all. The victim would have to accept his losses. And this seems not to be just.

The principle of liability implies that the whole damage should have to be made good. This was, accordingly, proposed in the first draft of the convention, as sent to the different governments for examination. Several of these governments and also the International Chamber of Commerce at Paris raised objections against this unlimited liability. The C. I. T. E. J. A. had to re-examine the question and came to the conclusion that limitation could be

5. As does the English word "aircraft".

accepted. The motives were that technical difficulties might arise in insuring unlimited liability as the legislation of different countries lays down, as one of the principles of insurance, that the limit of liability should be expressed in the policy. Also it was taken into consideration that the victim had the advantage of not having to prove fault or negligence and that this might be compensated by limitation of the damages—he remaining free to try to get full reparation by taking the risks of his proving fault or negligence.

The limitation is accepted in two directions: first, in a pecuniary maximum for each accident, and, secondly, in the limitation of the time within which a law-suit should have to be begun—two years after the accident or after the victim had knowledge of the accident and of the identity of the person responsible, but not later than four years after the accident. The operator[6] of the aircraft is held responsible and he may have recourse to the author of the injury.

These are the principal points of the draft convention as worked out by the Committee after re-examination. However, some members were not satisfied and refused to advise their governments to accept it—especially Switzerland—unless the convention should be completed by guarantees on behalf of their citizens. In Switzerland it was argued that the legislation of their country provided that no aeroplane[7] was admitted unless some guarantee had been given that, in case of damage, reparation would in reality follow. This guarantee might be given in cash, by a Swiss bank, or by a policy of a Swiss company, the amount to be fixed by the competent authorities at the frontier.

So the C. I. T. E. J. A. was forced to work out a second draft convention, which was done accordingly.

The principal idea adopted in this draft is that each State, which is a party to the convention, provides in its legislation with sanction, that no aeroplane, registered in that State, shall fly over the territory of any other State, also a party to the convention, without being insured against damage caused to persons on the ground. The legislation may dispense with this insurance—for the whole or for a part—if a sufficient guarantee is given, either in cash or by a bank, for the payment of reparation of possible damage. This insurance must be contracted either with a public assurance-institution, or with a company, accepted for this pur-

6. Exploitant: who may not be the owner.
7. Or automobile.

pose by the government. It is further provided that certificates of government officers shall state whether the above-mentioned provisions have been complied with, and if so, to what amount, and for what period. The certificate is one of the papers to be carried on board and to be produced on demand.

The draft convention contains only one sanction for these provisions inasmuch as the operator, who is not in possession of one of the guarantees and who causes damage to other people, is not entitled to benefit by any limitation of his liability.

The C. I. T. E. J. A., on adopting this second draft convention, decided that both drafts should be amalgamated into one. This was done at the meeting, held in July, 1932, at Stockholm, and the combination was augmented by a provision, remarkable from the point of view of private law, that the victim of damage has a direct action against the insurer of the aeroplane, a principle, however, already adopted in French laws of 1913 and 1930 and in an English statute also of 1930.

The latest draft convention is based on the newest ideas of liability for damage, and may give satisfaction to the mind that wishes to find an equilibrium between the parties concerned in cases of damage not caused on purpose or by neglect, but for which no one is responsible. It is planned that the draft shall be examined and signed in a diplomatic conference to be held at Rome in May, 1933, after which ratifications are to follow to make it a part of international air law.[8]

J. WOLTERBEEK MULLER.[9]

AIR TRANSPORT OPERATORS OPPOSE AIRCRAFT FUEL TAX*

Current proposals of a tax to be levied on aircraft fuel have resulted in the development of opposition on the part of leading air transport operators of the United States, not because these companies desire to avoid the imposition of fairly determined

8. The author appended a copy of the French text of the convention to his article, but since a full English translation appears in 4 JOURNAL OF AIR LAW 97, the French text has been omitted. [Ed.]

9. Of the Bar at The Hague. A member of the Third Commission of the C.I.T.E.J.A. Mr. Mulier presided at the recent meetings at Paris and Stockholm, as President.

*Believing it desirable to have both sides of the gasoline tax question presented in the JOURNAL, the editor some time ago invited Mr. William M. Allen, of Seattle, and Mr. C. C. Thompson, of Chicago—representing United Air Lines, and Mr. R. S. Pruit of Chicago—representing American Airways, Inc., to collaborate on an article that would express the views of the airline operators. The present editorial by Mr. Thompson is in answer to that invitation, and it is expected that a longer article, in behalf of the operators, will appear in an early number of the JOURNAL.—[Ed.]

taxes, but rather by reason of the fact that the principle of a gallonage tax does not constitute an equitable method of taxation in the particular case of air lines.

Following a general study of the potential state taxation of air transportation, the companies have joined forces to present resistance to a tax on aircraft fuel, and they are marshalling a formidable array of facts to support their position. It is believed by many air transport operators that an aggressive educational campaign must be undertaken if their new industry is to avoid the taxation pitfalls which have made progress costly for older public service enterprises.

Such points as those to be mentioned appear to justify the attitude of the air transport companies, and surely they merit serious consideration in an evaluation of the aircraft fuel tax question.

For example, do you know that from seven to twenty times as much engine fuel is required to transport a passenger one mile by aircraft as is necessary to transport a passenger one mile by highway bus?

Do you know that established airways today have cost the public only approximately $500.00 per mile, whereas first-class highways have cost the public approximately $10,000.00 per mile?[1]

Do you know that highway motor vehicle operators paid no gasoline tax in any state fifteen years ago, yet today they are assessed over $500,000,000.00 annually in state-administered engine fuel taxes at rates ranging from two to seven cents per gallon in various states?

And do you know that highway motor vehicle operators are making a unified effort to lower gasoline tax rates, and that certain state highway bureaus are being criticized for spending millions on highway routes not yet justified?

The idea that air transportation, being largely interstate in character, has little to do with political units other than the Federal Government has received some severe jolts during the aircraft fuel tax litigation during the past four years. The U. S. Supreme Court decision in the case of *Nashville, Chattanooga and St. Louis Railway* v. *Wallace* handed down on February 6th of this year leaves little doubt that "the sovereign state" must be more seriously considered in future plans of air lines.

The aircraft educational movement has already been undertaken, and aircraft operators in the State of Oklahoma are

1. Many times this amount in mountainous states.

probably entitled to credit for leading the way. A state-wide organization for the purpose of opposing unsound methods of aircraft taxation and the aircraft fuel tax in particular, was formed on January 30, 1933, by private pilots, air corps reserve personnel, airport managers, intra- and interstate transport operators from all parts of the state, who were assembled at Oklahoma City. This group selected as chairman Charles Mason, former state supreme court justice, and is assuming national leadership in the search for sound methods of taxation for the aviation industry.

The merit of air transportation's position in opposition to the principle of aircraft engine fuel taxation may be determined by a review of the points on which the industry bases its contention that the principle itself is inequitable.

(1) *Gasoline consumption* on an air transport line *bears no relation to net earnings.* Gasoline consumption bears no relation to airplane capacity, passenger load or cargo carried, and is in no way a fair device for measuring *ability to pay* a tax for general or special state purposes.

(2) *Gasoline consumption* by an air transport line *bears no relation to the use value of airway facilities* that a state may see fit to furnish or that the air line may care to use. Essential landing fields are generally provided by each air transport operator through contract for a fair consideration. The scheduled interstate air transport lines do not now need additional state airway facilities, and it therefore seems unsound to use any considerable part of their limited income to support state airway development programs through a gasoline tax at a time when the trend in air mail revenue is downward and the capital outlay in providing facilities for greatly needed passenger traffic is higher.

(3) The tendency to divert easily collected special project gasoline tax receipts *to uses not originally intended* is a great danger in this method of taxation. When such receipts are used for the purpose of highway construction and maintenance, and paid in by a great motoring public demanding more and more road improvements, legislative and administrative diversions are unpopular and difficult. However, $80,000,000.00 of state highway moneys from motorists' gasoline tax receipts was diverted to oyster beds, fish hatcheries, mental institutions and a variety of unexpected uses in 1931.

(4) *Gasoline consumption is so many times greater in the operation of aircraft* than in the operation of highway vehicles that it will not serve as a yardstick of fair taxation for both. A

gasoline tax rate applying alike to gasoline consumed by motor vehicles and aircraft allows no provision for the equalization of tax burden between two modes of transportation which make vastly different demands upon state and local government.

A simple illustration of the unfairness of a fuel tax is found in a comparison between a 32-passenger highway bus powered with a 150-horsepower engine, reputed to travel about ten miles for each gallon of engine fuel consumed, and a 14-passenger air liner powered with engines developing 1575 horsepower and flying about one mile for each gallon of fuel consumed. Thus the air liner consumes ten times as much fuel as the highway bus to transport less than half as many passengers.

To state the comparison in another manner, presuming that both transportation units are loaded to capacity, it requires 20 times as much gasoline to carry a person one mile by air as is required by highway bus, and an equal gallonage tax on engine fuel would cost the operator of the air liner 20 times as much as the bus operator. The latter has the use of a costly state highway essential to his operations, while the air line operator uses municipal landing fields paying a contract consideration, or uses Federal Government emergency fields quite adequate for air transport at this stage of its development.

The small unit, local or private, operator of aircraft carries six passengers, for example, with an engine developing approximately from 400 to 500 horsepower and travels from three to five miles per gallon of fuel, whereas the man with a seven-passenger automobile carries his load with less than 75 horsepower, usually, and travels 12 to 15 miles per gallon of fuel consumed. Thus it is apparent that the private or single-engine airplane operator must use approximately seven times the amount of engine fuel, which, if taxed at the automobile gasoline tax rate, would cost the airplane operator seven times as much in taxes as the highway vehicle operator who has the use of a costly state-built highway essential to his operation. The aircraft operator requires no such costly public facility, and at this time desires to make the best possible use of existing airway facilities instead of adding more.

Aircraft owners and air transport companies are now paying property taxes on land, buildings and airplanes owned, as well as the usual corporation, franchise, income and license taxes imposed by various states in a variety of forms. If current conditions make imperative the raising of additional revenue for general

government, the air lines would prefer that the rates of the above taxes be increased. If there is any honest demand for intra-state airway development by users of aircraft in any state and such state desires to establish airways under a general property levy as highway construction was financed prior to 1919, there can be little objection from the industry benefited. But if it is proposed to develop intrastate airways through a special tax upon aircraft or aircraft fuel, the owners and operators quite naturally feel that they should be summoned around the council table to consider and to approve or reject a tax upon themselves.

CYRIL C. THOMPSON.

NORTH CENTRAL REGIONAL MEETING OF THE NATIONAL ASSOCIATION OF STATE AVIATION OFFICIALS

The North Central Regional Meeting of the National Association of State Aviation Officials will be held at Bismarck, North Dakota, on May first and second, under the general chairmanship of Hon. Fay Harding, Regional Vice-President, and President of the Board of Railroad Commissioners of North Dakota.

Mr. Harding has announced the following tentative program and list of speakers:

Aviation from the Taxpayer's Viewpoint. HON. MINNIE D. CRAIG, Speaker, House of Representatives, Twenty-Third Legislative Assembly, Esmond, North Dakota.

State Regulations Body, Organization and Available Funds. HON. DAWES E. BRISBINE, Chairman, Board of Railroad Commissioners, Pierre, South Dakota.

The Part that States Should Play in the Development of Airways. COL. L. H. BRITTIN, Vice-President, Northwest Airways, Inc., St. Paul, Minnesota.

The Trend of Uniform Regulation Throughout the United States. PROF. FRED D. FAGG, JR., Managing Director, Air Law Institute, and Secretary, National Association of State Aviation Officials, Chicago, Illinois.

The Federal Program and the Place for State Regulation. MR. GEORGE W. VEST, Supervising Aeronautical Inspector, Aeronautics Branch, United States Department of Commerce, Chicago, Illinois.

Airport Management. HON. FRED D. SHERIFF, Chairman, Helena Municipal Airport, Helena, Montana.

North Dakota State Laws Affecting Aeronautics. HON. A. J. GRONNA, Attorney General, Bismarck, North Dakota.

Aids to Flying: Discussion on Wisconsin State Laws Affecting Aviation. HON. A. D. MURPHY, Secretary, Association of Commerce, Green Bay, Wisconsin.

Regulations from the Operators' Standpoint. HON S. RUSSELL HALLEY, President of the Rapid Air Lines Corporation, Omaha, Nebraska.

SUMMER COURSES IN AERONAUTICAL AND RADIO LAW

During the Summer Term, June 19-August 19, Northwestern University School of Law will offer courses of instruction in aeronautical and radio law. Each course will be given two hours per week and will offer one semester hour of credit.

The course in aeronautical law will be given by Professor Fagg, and the radio lectures will given by Mr. Keith Masters, a member of the Chicago Bar and, for several years, an assistant editor of the JOURNAL OF RADIO LAW.

The aeronautical law lecture and discussion topics will include the following:

1. The Beginnings and Development of Aeronautical Law
2. The International Air Navigation Agreements: CINA, CIANA, and P. A. C.
3. The Function and Work of the CITEJA
4. The Right of Flight: "Cujus est Solum" and Precedent
5. The Right of Flight: American cases and Rationale
6. Aircraft Liability
7. Airports and Liability
8. Aircraft Insurance
9. Taxation of Aircraft Motor Fuel
10. Aeronautics and Workmen's Compensation
11. The Air Commerce Act of 1926: History and Analysis of
12. The Aeronautics Branch of the Department of Commerce
13. The Province of State Regulation and Problems of Uniformity
14. Aeronautical Regulatory Bodies: Legislative and Legal Problems
15. State Regulation Enforcement and Aviation Encouragement

The course of instruction is intended primarily for law students and law instructors, but will be open to lawyers, aviation commission members, airline operators, and other representatives of the aviation industry.

A special section will be open to representative of the industry —wherein the more immediate legal problems of airline operation will be considered. The lectures offered in the second section will include the following:

1. Air Transport as Common Carriers
2. Air Transport and Passenger Liability
3. Airline Passenger Discrimination

4. Air Transport Trespass Liability
5. Air Transport and Third Party Liability
6. Air Transport and Employee Liability
7. Aircraft Insurance
8. Compulsory Aircraft Insurance
9. Liability of Airport Proprietors
10. Legal Problems of Air Express
11. Certificates of Convenience for Air Transport
12. Taxation of Aircraft Motor Fuel
13. The Limits of State and Federal Regulation
14. The Pan-American Convention and Latin American Developments
15. Air Transport and International Air Conventions

In connection with the courses in aeronautical and radio law, the instructors plan to supplement the class lectures and discussion with special field trips of an inspectional nature. In the aeronautical law course, trips will be made to airports, air transport company offices, etc., and, in radio, the studio rooms and sending stations of the larger broadcasting stations will be visited. In addition, it is expected that special lecturers will participate in each course.

LEON GREEN.

STATE REGULATION

Department Editor..... { HOWARD C. KNOTTS / LEO FREEDMAN }

PENDING STATE AERONAUTICAL LEGISLATION*

Alabama.

Legislature not in session.

Arizona.

H. 79 (*Gasoline Tax*)—disposition of funds raised from.[1]

Arkansas.

"Although the Legislature is in session we have not yet had any aviation legislation introduced, and are at the present time uncertain as to just what will be introduced, other than a bill to recodify our aviation laws, which in substance would adopt the Department of Commerce laws as our State laws."[2]

California.[3]

A. Const. Amend. 76 (*Airports*)—exemption from taxation.

A. 309 (*Public Utilities*)—jurisdiction of California Railroad Commission over air transport companies.

A. 364 (*Public Utilities*)—to include airplane line corporations within definition of common carriers.

A. 706 (*Gasoline Tax*)—repeal of refund provision.

A. 835 (*Air Navigation Act*)—exemption of private aircraft from license requirements.

A. 1485 (*Air Navigation Act*)—broadening definition of federal license.

A. 1532 (*Public Utilities*)—certificates of convenience required for air transport.

A. 1602 (*Penal Code*)—taking of aircraft for temporary use.

A. 1603 (*Civil Code*)—liens on aircraft.

A. 1604 (*Civil Code*)—mortgages on personal property.

A. 1617 (*Air Navigation Act*)—federal certificate of authority required for all air transport operation.

A. 1742 (*Gasoline Tax*)—exemption from, and provision of airport construction fund.

S. 573 (*Air Navigation Act*)—same as A. 1485.

Colorado.

". . . there are no legislative changes being contemplated relative to our State aviation."[4]

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*Compiled by Katherine Fritts, Secretary-Librarian, AIR LAW INSTITUTE.

1. Letters and bill from Hon. James H. Kirby, Secretary of State of Arizona, and Amos A. Betts, Chairman, Arizona Corporation Commission.

2. Letter from J. Carroll Cone, Director of Aeronautics, State of Arkansas, Jan. 31, 1933. Other letters from Felix G. Smart, State Honorary Aircraft Board, Hon. Ed. F. McDonald, Secretary of State of Arkansas.

3. Letters and bills from Prof. Robert Kingsley, University of Southern California, and Thomas H. Kennedy, of the California Bar. Mr. Kennedy also furnished a digest of the pending legislation.

4. Letter from Dr. John S. Chase, Secretary, Colorado State Commission of Aeronautics, January 31, 1933.

Connecticut.[5]

H. 238 (*Appropriation for Aircraft*)—for State Forestry Commission.
H. 601 (*Commercial Flying*)—barnstorming permits.
H. 602 (*Airworthiness of Aircraft*)—factors to be considered.
H. 603 (*Gliders and Glider Pilots*)—licenses therefor.
H. 604 (*Aircraft Gasoline*)—quality of.
H. 605 (*Temporary Licenses*)—Authority of commissioner to issue.
H. 606 (*Student Solo Flights*)—authorization of, by commissioner.
H. 607-2-1 (*Air Traffic Rules*)—revision of.
H. 608 (*Pilots' Licenses*)—qualifications and restriction.
H. 609-2-1 (*Abandoned Aircraft*)—disposition of.
H. 610 (*Air Instruction*)—conditions and qualifications.
H. 611 (*Pilots' Licenses*)—requirements for.
H. 612 (*Air Obstructions*)—removal of.
H. 613 (*Airport Zoning*)—commissioner to establish regulations.
H. 614 (*Transport Pilots*)—definition of term.
H. 848 (*Aircraft Fees*)—to be collected by commissioner.
H. 849 (*Pilots' Licenses*)—dual instruction to partly disabled persons.
S. 59 (*Railroads*)—to operate aircraft. (Passed by S., Feb. 9, 1933.)
S. 214-12-1 (*Motor Vehicles*)—not to include aircraft.
S. 278 (*Liability*)—of pilot and employer.
S. 279 (*Wrecked Aircraft*)—removal of.
S. 280 (*Airport Commission*)—constitution, powers and duties of.
S. 281-2-1 (*Non-Resident Pilots*)—privileges of.
S. 282 (*Reckless Flying*)—prohibition and penalty.
S. 283 (*Photographic Flights*)—special permit required.
S. 284 (*Licenses*)—revocation and suspension of.
S. 285-2-1 (*Aviation Definitions*)—revision of order of.
S. 286-2-1 (*Fees*)—disposition of fines and costs.
S. 287 (*Acrobatics*)—prohibitions against.
S. 288-2-1 (*Parachutes*)—requirements concerning.
S. 289-2-1 (*Aircraft Lights*)—requirements concerning.
S. 429 (*Airport Commission*)—membership provisions.

Delaware.

". . . no new legislation covering any phase of aeronautics is to be introduced in the present session of our State Legislature."[6]

Florida.

The Florida State Legislature does not convene until April 4, 1933.[7]

Georgia.

No legislation reported.

Idaho.

"House Bill No. 20—The Idaho gasoline tax law rewritten, and containing a section repealing the former law.

"This is the only bill introduced so far. Proposed bills include:

5. Letter and bills from Hon. Charles L. Morris, Commissioner of Aeronautics, State of Connecticut.

6. Letter from Hon. Henry B. DuPont, February 6, 1933.

7. Letters from Hon. R. A. Gray, Secretary of State of Florida, Leland Hyzer, J. E. Yonge.

Repeal Section 35-803 of Idaho Code Annotated, relating to the transportation of game or fur bearing animals by airplane. The present law makes it a misdemeanor to carry game or fur bearing animals either within or without the State, by airplane. A recent ruling of the State Attorney General declared this law unconstitutional.

"Amending Section 21-205—Idaho Code Annotated, eliminating the $1.00 fee now charged for State airman's license. Inasmuch as the Federal Government requires no fee for this service, we are endeavoring to eliminate it from the State statutes. The purpose, that of obtaining an accurate list of all airmen operating within the State, has been defeated and the revenue rate is negligent. Therefore, we are dropping the fee. The license fee, however, for aircraft remains in force inasmuch as this fee is in lieu of the personal property tax.

"No other bills are contemplated at the present time except the appropriation bill."[8]

Illinois.[9]

H. 22 (*Aeronautics Commission*)—abolition of.

S. 229 (*State Highways*)—amendment to allow air markings on.

S. 230 (*Motor Fuel Tax*)—amendment of to allow new law taxing aircraft motor fuel.

S. 231 (*Aircraft Motor Fuel Tax*)—tax of 2c per gallon.

S. 232 (*State Highway Maintenance Police*)—to permit cooperation on weather service.

S. 314 (*Aeronautics Act*)—amending the general act to regulate aeronautics.

Indiana.

A bill was introduced in the Senate by Mr. Tormohlen for the control of aeronautics. This bill was defeated by the Senate. A new bill has been prepared by Mr. Robert R. Bartel. No action on this bill has been reported.[10]

Iowa.

No legislation reported.

Kansas.

H. 78 (*Aircraft Operation*)—authorizing railroads to operate. (Passed H. Jan. 26.)[11]

Kentucky.

Legislature not in session.

Louisiana.

Legislature not in session.

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8. Letter from Hon. A. C. Blomgren, Airways Engineer, Department of Public Works, State of Idaho, January 31, 1933.

9. Information from Maj. Reed G. Landis, Chairman, Illinois Aeronautics Commission.

10. Letters from Robert R. Bartel, Manager, Fort Wayne Municipal Airport, February 6, February 15, 1933.

11. 7 U. S. Daily 2090, 2139 (Feb. 1, 9, 1933).

Maine.

H. 172 (*Air Transportation on Sunday*)—legalizing same.[12]

Leg. Doc. 37 (*Air Transportation on Sunday*)—made lawful.

Leg. Doc. 557 (*Licenses and Fees*)—requirements concerning.[13]

"As director of aeronautical affairs, I can give you the information that we hope to bring about some changes in our present law, and an act is being drafted for presentation to the Legislature."[14]

Maryland.

S. 64 (*Aeronautics Act*)—repeal of.[15]

Massachusetts.

H. 516 (*Pilots' Licenses*)—requirements for minors.

G. L. Ch. 90—Sec. 58 (*Pilots' Licenses*)—prohibition of same for persons under eighteen.

G. L. Ch. 90—Sec. 58 (*Operation of Aircarft*)—requirements for.

". . . the only aviation bill in the legislature this year which was House Bill No. 516 has been withdrawn."[16]

Michigan.

"Advise we do not have at this time any aviation legislation pending. We have one or two changes to make in our present laws, but as yet do not have the bills written."[17]

Minnesota.

A bill has been prepared for Minnesota by the Air Law Institute. No report on action taken, and no other legislation reported.

Mississippi.

Legislature not in session.

Missouri.

"We have no bills pending in the present legislature on the subject of aeronautics."[18]

Montana.

S. 25 (*Aeronautics Act*)—definitions, provisions for licenses of aircraft, airmen, sovereignty, lawfulness of flight, penalties.[19]

Nebraska.

H. 432 (*Gasoline Tax*)—privilege tax on gasoline used in aircraft operations, exempted from general fuel tax.[20]

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12. 7 U. S. Daily 2090 (Feb. 1, 1933).
13. Letter and bills from Hon. Wm. H. Gannett, W. H. Gannett Chapter of the National Aeronautic Association.
14. Letter from Hon. Robinson C. Tobey, Secretary of State of Maine, January 31, 1933.
15. Letter and bill from Department of Legislative Reference, Maryland, February 18, 1933.
16. Letters and bills from Hon. Clarence E. Hodge, Acting Supervisor of Aviation, Commonwealth of Massachusetts, March 2, 1933.
17. Letter from Hon. Floyd E. Evans, Director, Department of Aeronautics, February 1, 1933.
18. Letter from Hon. Dwight H. Brown, Secretary of State of Missouri, February 1, 1933.
19. Bill from Hon. Fred B. Sheriff, Director of Aeronautics, February 18, 1933.
20. 7 U. S. Daily 2194 (Feb. 20, 1933).

Nevada.

No legislation reported.[21]

New Hampshire.

H. 80 (*Aircraft*)—to regulate the use of.[22]

New Jersey.

"There are no legislative changes to be made in the aeronautics laws of the state this year so far as we know. There was a rumored attempt to remove the exemption on aviation gasoline . . ."[23]

New Mexico.

". . . no legislative measures have been passed by the present Legislature with regard to aviation . . ."[24]

New York.

"Up to date [no aviation legislation] has been introduced and it is impossible for us to say what will be."[25]

"Venturing an opinion wholly as an individual member of the Commission I take it that we shall shortly examine again the last flying rules and regulations of the United States Department of Commerce in order to be sure that the New York statutes cover them, in keeping with the policy we have continued in New York for several years."[26]

North Carolina.

No legislation reported.

North Dakota.

". . . there is no legislation affecting aviation being proposed, and I am quite sure there is none pending at this time."[27]

Ohio.

H. 187 (*Registered Bonds*)—exchange of.[28]

Oklahoma.

H. 106 (*Gasoline Tax*)—privilege tax for use of landing fields and airports within the state.

H. 401 (*Aircraft Licenses*)—licensing of experimental aircraft after such has been determined airworthy.[29]

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21. Letter from Hon. W. G. Greathouse, Secretary of State of Nevada, January 31, 1933.

22. Letter and bill from Hon. Enoch D. Fuller, Secretary of State, January 30, 1933. Letter also from W. H. Cogswell, Aviation Inspector, New Hampshire Public Service Commission.

23. Letter from Hon. Gill Robb Wilson, Director of Aviation, State of New Jersey, February 10, 1933.

24. Letter from Hon. Jose A. Baca, Assistant Secretary of State, January 30, 1933. Letter also from Hon. J. D. Lamb, Chairman, State Corporation Commission.

25. Letter from Hon. J. Griswold Webb, Chairman, Commission on Aviation, State of New York, February 1, 1933.

26. Letter from John Dwight Sullivan, of the New York Bar, Commissioner, Commission on Aviation, February 6, 1933.

27. Letter from Hon. Fay Harding, President, Board of Railroad Commissioners, February 3, 1933.

28. Bill from Clerk, House of Representatives.

29. Letter and bills from Ed. McDonald, Secretary, State Highway Commission, State of Oklahoma, February 20, 1933.

Oregon.

H. 219 (*Aircraft Operation*)—requirements of.

H. 220 (*Landing Fields*)—use of shore of the ocean as landing field for aircraft.[30]

Pennsylvania.

H. 13 (*Aeronautics Act*)—repeal of.[31]

Rhode Island.

"[No proposed legislation pertaining to phases of aeronautics] has been presented as yet . . ."[32]

South Carolina.

No legislation reported.

South Dakota.

S. 24 (*Gasoline Tax*)—2c exemption on 4c gasoline tax.[33]

Tennessee.

No legislation reported.

Texas.

No legislation reported.

Utah.

"We desire to advise you that there is no legislation relative to this matter now pending before the Legislature, nor do we know of any that is contemplated during this session . . ."[34]

Vermont.

H. 90 (*Aircraft License Fee*)—reduction of.[35]

Virginia.

Legislature not in session.

Washington.

"Up to date there appears to have been no bills proposed at this present session of Legislature, pertaining to aeronautics."[36]

West Virginia.

". . . we have been unable to prepare any new legislation pertaining to the control of aviation to this session of the Legislature in the state."[37]

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30. Letter and bills from H. C. French, Oregon State Board of Aeronautics, February 3, 1933.

31. Letter and bill from Hon. Philip H. Dewey, Secretary of Internal Affairs, February 3, 1933.

32. Letter from Legislative Reference Director, State Library, February 2, 1933.

33. Letter and bill from Hon. Dawes E. Brisbine, Chairman, Board of Railroad Commissioners, State of South Dakota, January 30, 1933.

34. Letter from F. L. Ostler, Secretary, Public Utilities Commission, State of Utah, February 3, 1933.

35. Letter from Hon. Charles T. Pierce, Commissioner, Motor Vehicle Department, State of Vermont, February 1, 1933.

36. Letter from Hon. Ernest N. Hutchinson, Secretary of State of Washington, January 31, 1933.

37. Letter from Hon. Roy L. Pixler, Chairman, Board of Aeronautics, January 31, 1933.

Wisconsin.

"No bills relating to aeronautics have as yet been introduced in either the senate or the assembly."[38]

Wyoming.

". . . no aviation bills were passed during our recent session of the State Legislature. There was a bill introduced, however, entitled 'Creating Office of State Aeronautics Commissioner' but this bill was indefinitely postponed."[39]

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38. Letter from Chief Clerk, Wisconsin Legislature, January 31, 1933. Letter also from A. D. Murphy, Secretary, Association of Commerce.

39. Letter from C. J. Rogers, Dputy Secretary of State, State of Wyoming, March 2, 1933.

FEDERAL REGULATION

Department Editors..... { EDWARD C. SWEENEY / RICHARD S. PAULETT

CHANGES IN THE REQUIREMENTS FOR PILOTS' LICENSES

(Effective March 1, 1933)

SECTION 45. CLASSIFICATION OF PILOTS.

Licensed pilots are classed as commercial or *non-commercial*. Commercial pilots are licensed as transport *or* limited commercial *pilots* or *as commercial* glider pilots. *Non-commercial* pilots are designated as private, *solo*, or student pilots or as *non-commercial* glider pilots.

SECTION 46. PRIVILEGES AND RESTRICTIONS OF LICENSED PILOTS.

(C) Delete this paragraph, substituting therefor:

Commercial glider pilots may pilot any type of motorless aircraft but shall not transport persons or property nor instruct students except in licensed motorless aircraft.

(D) Delete this paragraph, substituting therefor:

Non-commercial glider pilots' licenses may be issued for *non-commercial* flights upon satisfactory accomplishment of the prescribed flight tests.

(E) Delete this paragraph, substituting therefor:

(1) *Private pilots may pilot licensed aircraft but shall not carry persons or property for hire in licensed or unlicensed aircraft. They shall not for hire instruct students in the operation of aircraft in flight.*

(2) *Solo pilots may pilot licensed aircraft but shall not carry persons or property for hire in licensed or unlicensed aircraft. They shall not carry or be accompanied, in flight, by any person other than a licensed transport, limited commercial, or private pilot.*

(3) *Student pilots may operate licensed aircraft only while receiving flying instruction. Solo flights by such students shall not extend beyond a safe gliding distance from the field from which they are receiving instruction. They shall not carry persons or property for hire in licensed or unlicensed aircraft and shall not carry or be accompanied, in flight, by any person other than a licensed transport, limited commercial, or private pilot.*

SECTION 48 is amended to read as follows:

An applicant for a pilot's license must be of good moral character. The minimum age requirements are 14 years for *non-commercial* glider pilots, 16 years for private, *solo*, and *student* pilots, 18 years for *commercial* glider, limited commercial and transport pilots. A *non-commercial* glider, private, *solo* or *student* pilot may be a citizen of any country. A *commercial* pilot must be (1) a citizen of the United States, or (2) a citizen of a foreign country which grants reciprocal commercial-pilot privileges to citizens of the United States on equal terms and conditions with the citizens of such

foreign country, or (3) an alien who has filed his declaration of intention to become a citizen of the United States and advises the Secretary of Commerce of the serial number of such declaration, and date thereof, and the court in which filed. He must diligently and successfuly prosecute the naturalization proceedings under penalty of the revocation of his pilot's license and from time to time must keep the Secretary of Commerce advised of the status of such proceedings. All applicants for *commercial* pilots' licenses shall be able to read, write, speak and understand the English language except applicants who are citizens of a country with which the United States has reciprocity with respect to the licensing of pilots.

SECTION 49. FLYING EXPERIENCE REQUIREMENTS.

(C) Delete this paragraph, substituting therefor:

Commercial and *non-commercial* glider pilots. No minimum flying experience.

(D) Delete this paragraph, substituting therefor:

Private Pilots. Private pilots, *50* hours solo flying, of which at least *5* hours must have been within the last preceding 60 days prior to the filing of the application.

(E) Delete this paragraph, substituting therefor:

Solo Pilots. *10 hours of solo flying, of which at least 2 hours must have been within the last preceding 60 days prior to the filing of the application.*

(F) Delete this paragraph, substituting therefor:

A graduate of an approved civilian flying school giving flying instruction may apply for a pilot's license provided he has obtained the solo flying experience in such school required by Aeronautics Bulletin No. 7-B (School Supplement) and provided such graduate applies within ten days of the date of this graduation.

SECTION 50. PILOTS' PHYSICAL QUALIFICATIONS.

Delete this Section and substitute the following:

The physical examinations provided for herein must be accomplished before the practical and theoretical tests will be given. The qualifications are as follows:

(A) *Private, Solo, Student, Commercial Glider.*

Absence of organic or functional disease and of defects or structural defects or limitations which would interfere with safe handling of an aircraft under the conditions of private flying; visual acuity of at least 20/50 in each eye without correction and depth perception of not more than 30 mm. without correction; or visual acuity of at least 20/30 with correcting lenses and depth perception of not more than 30 mm. with such correcting lenses; no diplopia within an angle of 45°; normal visual fields and color vision; no organic disease of eye, internal ear, or mastoid; no abnormalities of equilibrum.

(B) *Transport, Limited Commercial.*

Good past history; sound pulmonary, cardiovascular, gastrointestinal, central nervous, and genito-urinary systems; freedom from material structural defects or limitations; freedom from disease of the ductless glands; normal central, peripheral, and color vision; normal judgment of distance; only slight defects of ocular muscle balance; freedom from ocular disease; absence of obstructive or diseased conditions of the ear, nose, and throat; no abnormalities of equilibrium.

(C) Lighter-than-air. Applicants for licenses as pilots or student pilots of lighter-than-air craft (airships and balloons, all types) will be subjected to the same physical standard as private aircraft (heavier-than-air) pilots, with the following exceptions:

(1) All visual tests may be taken with correcting glasses if necessary.

(2) No hernia will be considered disqualifying if adequately supported by a truss.

(D) Waivers. In the case of trained, experienced pilots, the Secretary of Commerce may grant waivers for physical defects designated as disqualifying by these regulations when, in his opinion, the experience of the pilot will compensate for the defect. A waiver once granted for any grade of license will hold indefinitely for that grade only so long as the defect for which it was granted has not increased or unless cancelled by the Secretary of Commerce.

SECTION 52. PILOTS' EXAMINATIONS AND TESTS.

(C) Delete this section, substituting therefor:

Private Pilots. (1) Examination on the Air Commerce Regulations, including the air traffic rules, all of which are set forth in Aeronautics Bulletin No. 7.

(2) Delete this paragraph, substituting therefor:

Same flight test as prescribed for transport pilots except the cross-country flight.

(D) Delete this section, substituting therefor:

Solo Pilots. (1) *Examination on the Air Commerce Regulations, including the air traffic rules, all of which are set forth in Aeronautics Bulletin No. 7.*

(2) Practical flight test as follows: Three satisfactory landings to a full stop; a series of three gentle and three moderately steep figure eights; spiral in one direction from 2,000 feet with engine throttled, landing in normal landing attitude by wheels touching ground in front of and within 500 foot of a line designated by the examiner for the Department of Commerce.

(F) The first sentence of this paragraph is amended to read as follows:

Reexamination. Applicants for pilots' licenses who have failed to successfully accomplish the prescribed theoretical or practical tests may apply for reexamination at any time after the expiration of ninety (90) days from the date of such failure, except applicants for private, *solo* and glider pilots' licenses, who may re-apply after forty-five (45) days from the date of such failure.

SECTION 54. DURATION AND RENEWAL OF PILOTS' LICENSES.

(a) The first sentence of this paragraph is amended to read as follows:

Unless sooner suspended or revoked, transport and limited commercial pilots' licenses shall remain in force for six (6) months, and glider, private, *solo* and student licenses for one (1) year, as specified in the respective licenses.

(b) Delete this paragraph, substituting therefor:

Licenses may be renewed *within thirty (30) days prior to expiration for same duration as original upon satisfactory physical examination*

and showing of flying experience as indicated below for the various grades, verified by properly certified log book.

Transport and Limited Commercial. Ten (10) hours solo flying within last six (6) months in each aircraft classification for which renewal is desired.

Private. *Fifteen (15) hours solo flying within last year.*

Solo. Ten (10) hours solo flying within last year.

Commercial and *Non-commercial* Glider. Ten (10) gliding flights or one soaring flight of at least one (1) hour's duration within last year.

SECTION 59. SUSPENSION OR REVOCATION OF LICENSES.

(L) Delete this paragraph, substituting therefor:

Failure of student, *solo*, private or *commercial glider* pilots to wear correcting lenses where vision does not meet requirements of the Air Commerce Regulations without such correction.

INTERNATIONAL REGULATION

Department Editor.....MARGARET LAMBIE

AIR NAVIGATION ARRANGEMENT BETWEEN THE UNITED STATES AND THE NETHERLANDS[1]

Negotiations have taken place between the Government of the United States and the Government of the Netherlands for the conclusion of a reciprocal air navigation arrangement. The text of the arrangement as agreed to in the negotiations was set forth in notes exchanged between the Department of State and the Netherland Legation on November 16, 1932. The arrangement will, however, under the terms of Article 16, require ratification by the Queen of the Netherlands and will not become effective until thirty days from the day when such ratification is notified to the Government of the United States.

One important result of arrangements of this nature entered into by the United States with European countries is to do away with the cumbersome procedure necessary to obtain authorization through diplomatic channels for special or touring flights to be made in such European countries by American aircraft and in this country by European aircraft. There have been many flights of this kind by American aircraft in foreign countries, and it has been necessary to obtain special authorization for each flight to be made in any European country with which the United States has no reciprocal air navigation arrangement. An arrangement of this kind sets forth the conditions that must be observed when civil aircraft of one of the parties are flown in territory of the other party.

The text of the air navigation arrangement agreed to in the negotiations between the Government of the United States and the Government of the Netherlands is as follows:

Article 1.

For the purpose of the present arrangement (a) the term 'territory' shall be understood to mean the United States of America, the Netherlands and likewise possessions, territories, and colonies over which they respectively exercise jurisdiction, including territory over sea and territorial waters; and (b) the term 'aircraft' shall be understood to embrace private aircraft and commercial aircraft including state aircraft used exclusively for commercial purposes.

Article 2.

(1) Each of the Parties to this arrangement undertakes in time of peace to grant liberty of innocent passage above its territory to the aircraft of the other Party, provided that the conditions set forth in the present arrangement are observed.

(2) It is, however, agreed that the establishment and operation of regular air routes by an air transport company of one of the Parties within the territory of the other Party or across the said territory, with or without

1. Furnished through the courtesy of Mr. Stephen Latchford, Technical Assistant, Treaty Division, Department of State, Washington, D. C.

intermediary landing, shall be subject to the prior consent of the other Party given on condition of reciprocity and at the request of the Party whose nationality the air transport company possesses.

(3) Each Party to this arrangement agrees that its consent for operations over its territory by air transport companies of the other Party may not be refused on unreasonable or arbitrary grounds. The consent can be made subject to special regulations relating to aerial safety and public order.

(4) Each of the Parties to this arrangement may reserve to its own aircraft, air commerce between any two points neither of which is in a foreign country. Each Party may also reserve to its own aircraft pleasure or touring flights starting from an aerodrome in its territory and returning to the same aerodrome, for which a transportation charge would be made.

Nevertheless the aircraft of either Party may proceed from any aerodrome in the territory of the other Party which they are entitled to use to any other such aerodrome either for the purpose of landing the whole or part of their cargoes or passengers or of taking on board the whole or part of their cargoes or passengers, provided that such cargoes are covered by through bills of lading and such passengers hold through tickets issued respectively for a journey whose starting place and destination both are not points between which air commerce has been duly so reserved, and such aircraft, while proceeding as aforesaid, from one aerodrome to another, shall, notwithstanding that such aerodromes are points between which air commerce has been duly reserved, enjoy all the privileges of this arrangement.

Article 3.

Each of the Parties reserves the right to require that all aircraft crossing the frontiers of its territory shall do so between certain points. Subject to the notification of any such requirements by one Party to the other Party, and to the right to prohibit air traffic over certain areas as stipulated in Article 4, the frontiers of the territories of the Parties to this arrangement may be crossed at any point.

Article 4.

(1) Each of the Parties to this arrangement reserves the right to forbid flights over certain areas of its territory, which are or may hereafter be designated as prohibited areas.

(2) Besides, in exceptional circumstances, each of the Parties shall have the right to restrict or to forbid flights over the whole or over parts of its territory on condition that in this respect no distinction shall be made between the aircraft of the other Party and the aircraft of any other foreign country.

(3) The restrictions and prohibitions mentioned in this Article will be notified by each of the Parties to the other Party.

Article 5.

(1) Any aircraft which finds itself over a prohibited area shall, as soon as it is aware of the fact, give the signal of distress prescribed in the rules of the air in force in the territory flown over and shall land as soon as possible at the nearest airport open to public use in such territory outside of the prohibited zone, provided, however, that if there has not been compliance with customs, immigration or quarantine requirements in connection with the entry of the aircraft, the commander of the aircraft shall take prompt measures to meet those requirements as contemplated by paragraphs 2, 3 and 4 of Article 6.

(2) Such aircraft must land under the same conditions and in the same manner upon being notified by the subjacent country in accordance

with the prescribed signals of that country that it is flying over a prohibited area.

Article 6.

(1) Aerodromes open to public air traffic in the territory of one of the Parties to this arrangement shall in so far as they are under the control of the Party in whose territory they are situated be open to all aircraft of the other Party, which shall also be entitled to the assistance of the meteorological services, the wireless services, the lighting services, and the day and night signaling services, in so far as the several classes of services are under the control of the Party in whose territory they respectively are rendered. Any scale of charges made, namely, landing, accommodation or other charge, with respect to the aircraft of each Party in the territory of the other party, shall in so far as such charges are under the control of the Party in whose territory they are made be the same for the aircraft of both Parties.

(2) All aircraft entering or leaving the territory of either Party shall land at or depart from an aerodrome open to public air traffic and classed as a customs aerodrome at which facilities exist for enforcement of immigration regulations and clearance of aircraft, and no intermediary landing shall be effected between the frontier and the aerodrome. In special cases the competent authorities may allow aircraft to land at or depart from other aerodromes at which customs, immigration and clearance facilities have been arranged. The prohibition of any intermediary landing applies also in such cases.

(3) In the event of a forced landing outside of the aerdromes referred to in the second paragraph of this article, the pilot of the aircraft, its crew and the passengers shall conform to the customs and immigration regulations in force in the territory in which the landing has been made.

(4) Aircraft of each Party to this arrangement are accorded the right to enter the territory of the other Party subject to compliance with quarantine regulations in force therein.

(5) The Parties to this arrangement shall exchange lists of the aerodromes in their territory designated by them as ports of entry and departure.

Article 7.

(1) The Aircraft shall bear the registration marks allocated by the competent authority of the country whose nationality they possess, as well as any other marks that may be required by the air regulations of the country whose nationality they possess.

(2) The aircraft shall be provided with certificates of registration and of airworthiness issued or rendered valid by the country whose nationality they possess, and they must carry aircraft, engine and journey log books.

(3) The pilots shall be provided with a license issued or rendered valid by the country whose nationality the aircraft possesses.

(4) The other members of the crew of the aircraft, that is, all persons on board with the exception of passengers, must carry documents showing their duties on board the aircraft, their profession, identity and their nationality. In so far as they perform in the aircraft duties for which a special license is required by the country whose nationality the aircraft possesses they shall be provided with the licenses issued or rendered valid by that country.

(5) The certificate of airworthiness, certificates of competency and licenses issued or rendered valid by one of the Parties to this arrangement in respect of an aircraft registered in its territory or of the crew of such aircraft shall have, as long as the aircraft shall possess the nationality of that Party, the same validity in the territory of the other Party as the corresponding documents issued or rendered valid by the latter.

(6) Each of the Parties reserves the right to refuse to recognize for the purpose of flights within the limits of and above its territory, licenses issued by the other Party to nationals of the former Party.

Article 8.

Without prejudice to the provisions of Article 7, and unless otherwise agreed, the crew and passengers shall be provided with the documents required for international traffic by the country flown over.

Article 9.

(1) No apparatus for wireless communications whatsoever shall be carried without a special license issued by the country whose nationality the aircraft possesses. The use of such apparatus above the territory of each of the Parties to this arrangement shall be in accordance with the regulations on the subject issued by the competent authority of the territory within whose air space the aircraft is navigating. Besides, such apparatus shall be used only by such members of the crew as are in possession of a special license issued for the purpose by the competent authority of the country whose nationality the aircraft possesses.

(2) The Parties to this arrangement reserve respectively the right, for reasons of safety, to issue regulations relative to the obligatory equipment of aircraft with wireless apparatus.

Article 10.

(1) No explosives, firearms, munitions of war, carrier pigeons nor photographic or cinematographic apparatus shall be carried by aircraft of the nationality of either country within the limits of the territory of the other country without a license or permit issued by the competent authority of the latter country. Explosives and apparatus for the maintenance and operation of the aircraft are not subject to this provision.

(2) As a measure of public safety or because of lawful prohibitions, each of the Parties to this arrangement may impose with respect to flights over its territory, restrictions in addition to those enumerated in the foregoing paragraph of this article on condition that in this respect no distinction shall be made between the aircraft of the other Party employed in international traffic and national aircraft or the aircraft of any third country so employed. Each Party shall notify the other Party of any such restrictions that may be imposed by the former.

Article 11.

Upon departure and upon landing of aircraft the competent authorities of each of the Parties to this arrangement shall within its own territory have in all cases the right to examine the aircraft of the other Party and verify the prescribed certificates and documents.

Article 12.

No ballast, other than fine sand or water, shall be dropped from an aircraft in flight.

Article 13.

No discharge or dropping of objects other than ballast in the course of flight, shall take place unless by special permission of the country on whose territory the discharging or dropping takes place.

Article 14.

(1) The aircraft of each of the Parties to this arrangement, their crews and passengers, shall while within the territory of the other Party, be subject to the general legislation in force in that territory, as well as the regulations in force therein relating to air traffic in general, to customs and other duties, to prohibitions of exportation or importation, to the transport of passengers and goods and to public safety and order in so far as these regulations apply to all foreign aircraft, their crews and passengers.

(2) Each of the Parties to this arrangement shall permit the import or export of all merchandise which may be legally imported or exported and also the carriage of passengers subject to any customs, immigration and quarantine restrictions, into or from their respective territories in the aircraft of the other Party, and such aircraft, their passengers and cargoes, shall enjoy the same privileges as and shall not be subjected to any other or higher duties or charges than those which the aircraft of the country imposing such duties or charges, engaged in international commerce, and their cargoes and passengers, or the aircraft of any foreign country likewise engaged, and their cargoes and passengers, enjoy or are subjected to.

Article 15.

The Parties to this arrangement shall communicate to each other the regulations relative to air traffic in force in their respective territories.

Article 16.

The present arrangement shall become operative thirty days from the day when the ratification thereof by the Queen of the Netherlands shall be notified to the Governmment of the United States of America, and shall continue in force until 60 days after notice of its termination shall have been given by either Party to the other Party.

THIRD INTERNATIONAL CONFERENCE ON PRIVATE AERIAL LAW[2]

The Committee on Foreign Affairs, to which was referred the resolution (H. J. Res. 568) authorizing an appropriation for the expenses of participation by the United States in the Third International Conference on Private Aerial Law to be held in Rome, Italy, in 1933, having considered the same, report it to the House and recommend that it do pass without amendment.

The passage of this resolution is recommended by the President in his message to Congress of January 21, 1933 (S. Doc. No. 175, 72d Cong., 2d sess.) as follows:

To the Congress of the United States:

I commend to the favorable consideration of the Congress the inclosed report from the Secretary of State to the end that legislation may be enacted authorizing an appropriation in the sum of $3,500 for the expenses of participation by the United States in the Third International Conference on Private Aerial Law to be held in Rome, Italy, in 1933.

THE WHITE HOUSE, *January 21, 1933.* HERBERT HOOVER.

2. Report No. 1950, House of Representatives, 72d Congress, 2d Session, presented by Mr. Maas, from the Committee on Foreign Affairs, to accompany H. J. Res. 568.

The facts are set forth in the report of the Secretary of State accompanying the message of the President, as follows:

The PRESIDENT:

The Third International Conference on Private Aerial Law which is to convene in Rome on May 15, 1933, is to be held for the purpose of taking action on certain draft conventions adopted by the International Technical Committee of Aerial Legal Experts.

This international committee was created as the result of a resolution adopted at the First International Conference on Private Aerial Law, which met in Paris on October 27, 1925. The committee was organized for the purpose of developing a comprehensive code of private aerial law through the adoption of international conventions on various subjects of private aerial law. The committee held its first session in Paris in May, 1926, and has held annual sessions since that time. Thirty-two countries are represented on this committee. The preliminary draft conventions are prepared by four commissions which are in effect subcommittees organized under the authority of the committee. When draft conventions on given subjects have been adopted by appropriate commissions, they are referred to the International Technical Committee of Aerial Legal Experts for consideration. If the draft conventions are approved by the committee they are considered at a general international conference on private aerial law called for the purpose of considering the drafts.

This Government makes an annual contribution toward the expenses of the International Technical Committee of Aerial Legal Experts, such contribution in a sum not in excess of $250 annually having been authorized by Public Resolution No. 118, Seventy-first Congress, approved February 14, 1931. As this contribution entitled the Government of the United States to representation on this committee, American experts were, with the approval of the President, designated by the Secretary of State to serve on the committee. Col. Clarence M. Young, Assistant Secretary of Commerce in charge of Aeronautics, and Mr. John C. Cooper, Jr., of Jacksonville, Fla., chairman of the committee on aeronautical law of the American Bar Association, are the American members of this international committee, and Mr. George B. Logan, of St. Louis, Mo., a member of the committee on aeronautical law of the American Bar Association, is an alternate member. Mr. John Jay Ide, technical assistant in Europe for the National Advisory Committee for Aeronautics, is technical assistant to the American delegation on the International Technical Committee of Aerial Legal Experts. The members of the American delegation serve without salaries for their work on this international committee.

Pursuant to a message of the President under date of January 4, 1932, requesting that the Congress authorize an annual appropriation for the purpose of defraying the expense of participation by the Government of the United States in the meetings of the International Technical Committee of Aerial Legal Experts and/or of the subcommittees established by that committee, House Joint Resolution No. 193 was introduced and was favorably reported upon by the Committee on Foreign Affairs under date of March 14, 1932, House Report No. 800. The President's message is contained in Senate Document No. 33, Seventy-second Congress.

A similar resolution was laid before the Senate as Senate Joint Resolution 176 on June 8, 1932, and was referred to the Committee on Foreign Relations.

Although funds have not yet been made available to defray the expenses of the American experts, so as to enable them to attend the sessions of the committee and its commissions, they have in the meantime participated in the work of the committee to some extent through correspondence.

The International Technical Committee of Aerial Legal Experts has adopted four draft conventions which have not yet been considered at a general international conference on private aerial law. These drafts relate

to (1) ownership of aircraft and the aeronautic register, (2) mortgages, other real securities and aerial privileges, (3) precautionary attachment of aircraft,[3] and (4) liability for damages caused to third parties on the surface.[4] The Department of State is informed that present plans call for the consideration of the third and fourth draft conventions at the Third International Conference on Private Aerial Law. These two drafts were adopted by the International Technical Committee of Aerial Legal Experts at its seventh annual session held in Stockholm in July, 1932.

The Italian Government has invited the Government of the United States to participate in the Third International Conference on Private Aerial Law, and it is desirable that this Government be officially represented at the conference in order that it may have a voice in the development of a code of private aerial law which will vitally affect American aeronautical operations in foreign countries. Many flights by American registered aircraft are being made in European countries and in other parts of the world. It may be observed in this connection that the proposed draft convention defining the conditions under which aircraft may be attached and the draft convention establishing rules of liability with respect to damages caused by aircraft, which are to be considered at the Third International Conference on Private Aerial Law, contain principles which, if adopted by foreign countries and applied generally to aeronautical operations in their territories, would affect the rights of American aircraft operating in such territories. It is important, therefore, that this Government should have a voice in the adoption of conventions containing rules of law which will not only be applied in territory of the United States if this Government should become a party to the conventions, but may, regardless of whether the United States becomes a party to the conventions, be applied eventually to American aeronautical operations in foreign countries.

While American aircraft have been operating on special or touring flights in various parts of the world, they have in addition been operating on regular air transport lines in countries of the Western Hemisphere. These countries may become parties to international conventions on private aerial law and make effective within their territories principles of law established by these conventions applicable to foreign air transport lines, including American lines. American air transport lines are at the present time operating in Canada and in a number of Latin American countries as well as in colonies in the Western Hemisphere under the jurisdiction of Great Britain, France, and the Netherlands. These European countries may also become parties to the conventions on private aerial law and apply the rules of the conventions to their colonies in the Western Hemisphere. Although American air transport companies have not up to this time extended their lines to European countries it is not improbable, in view of the rapid development of international air navigation, that while proposed conventions on private aerial law are in force American air transport lines will be operating on a commercial basis between the United States and European countries.

The Department of Commerce was requested to furnish an expression of views in regard to representation by this Government at the Third International Conference on Private Aerial Law. In urging that this Government be represented at this conference the Department of Commerce has, in a letter dated December 9, 1932, made the following comment in regard to the importance of such representation:

"It is of utmost importance to American aviation interests that this country be represented at the conference, since the drafts of the treaty which will be considered for adoption will have a very material effect on American operators. It is understood that there will be presented for adoption at this conference a draft of a convention with respect to the responsibility of aircraft operators for damages to third persons on the surface

3. For text, see 4 JOURNAL OF AIR LAW 96.
4. For text, see 4 JOURNAL OF AIR LAW 97.

and the provisions of such a convention will seriously affect American interests whether this country adheres to the treaty or not."

I therefore recommend that the Congress be requested to enact legislation authorizing an appropriation of a sum not in excess of $3,500 to meet the expenses of participation of the United States by delegates in the Third International Conference of Private Aerial Law which is to be held in Rome in 1933.

A draft of a resolution designed to carry out this recommendation is attached.

Respectfully submitted,

HENRY L. STIMSON.

DEPARTMENT OF STATE,
Washington, January 19, 1933

THE WARSAW CONVENTION[5]

The Convention for the Unification of Certain Rules Relative to International Air Transportation (commonly called the Warsaw Convention), signed at the Second International Conference of Private Air Law, Warsaw, on October 12, 1929, went into force on February 13, 1933, for the following countries: Brazil, France, Latvia, Poland, Roumania, Spain and Jugoslavia.

It has also been presented to the government of the United States for consideration.

STATUS OF COMMERCIAL AVIATION IN FRANCE

The law of December 11, 1932, regulating the status of commercial aviation in France[6] covers, among others, the following points:

1. The Minister of Posts, Telegraphs and Telephones may make air mail contracts with non-subsidized companies for periods not exceeding 5 years.

2. The Minister of Air may grant subsidies to regularly operating Air Lines to a total amount not exceeding 250,000,000 francs per year.

3. Contracts with subsidized companies may run for not more than 15 years, renewable five years in advance of termination, for an additional 15 years.

4. The Government will be represented on Administrative Councils and Boards of Directors in proportion to the amount of shares or stoock held by the Government which will be at least 25% of the total.

Regular air transportation services for passengers, merchandise and mail are operated directly by the Government, or by non-subsidized or subsidized companies. The latter include only those which receive subsidies from the Ministry dealing with civil aviation, under provision of the present law.

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5. For text of the convention, see *Colegrove*, International Control of Aviation, p. 183. For references and comments on the convention, see *F. D. F.*, 1 JOURNAL OF AIR LAW 239-40, 374-7; *Margaret Lambie*, 2 JOURNAL OF AIR LAW 129-34; *Ide, J. J.*, "History and Accomplishments of the International Technical Committee of Aerial Legal Experts (C. I. T. E. J. A.)," 3 JOURNAL OF AIR LAW 27, 36.

6. For text in French see *Journal Officiel de la Republique Francaise*, December 15, 1932. Above information obtained from the report of Vice Consul L. J. Keena, Paris, December 20, 1932, filed in the Aeronautics Trade Division, Department of Commerce, Washington, D. C.

AIR CODE OF THE U. S. S. R.

The Air Code of the U. S. S. R.[7] may be regarded as a continuation of the regulation of aviation activities in Russia which began with the formation of the Chief Administration of the Civil Air Fleet in February, 1932.

This code provides for a complete system of registration and identification of civil aircraft, and defines the fundamental conditions under which such craft may be operated in the Soviet Union. The U. S. S. R. claims complete sovereignty over all its air space, including that situated over its territorial waters. The Air Code applies to every sort of aircraft, whether lighter or heavier than air. The planning, supervision and regulation of civil aviation are all entrusted to the Chief Administration of the Civil Air Fleet.

The right of foreign juridical persons and individual citizens to own and operate civil aircraft in Russia is limited by the general rules governing all activities of foreigners. In every case, ownership and operation of aircraft requires the special permission of the Chief Administration of the Civil Air Fleet. Foreign civil aircraft performing non-regular international flights do not have to be registered in Russia in order to fly over Russian territory, but must get a special permit from the Chief Administration of the Civil Air Fleet, specifying the point where the craft is to cross the border, the route to be followed, and the intended stops. Foreign aircraft are required to avail themselves of the technical facilities utilized by Russian aircraft, such as airports, hangars, repair shops, filling stations, etc. Documents relating to civil aircraft not registered in the U. S. S. R., as well as their crews, passengers and cargoes, are considered valid in conformity with agreements in operation between the U. S. S. R. and foreign states. In the absence of a special agreement on this point, the Soviet authorities may require and carry out a special examination of the airworthiness of any foreign aircraft. The Chief Administration of the Civil Air Fleet is authorized to make exceptions from the regulations set forth in the Code, as to foreign civil aircraft engaged in single international flights of a special nature.

Foreign civil aircraft performing regular international flights over Russian territory are ordinarily required to be registered in Russia, although exceptions may be made. In the case of planes registered in Russia the crews must be composed solely of Soviet citizens, unless special exemption from this rule is granted by the Chief Administration of the Civil Air Fleet.

The Chief Administration of the Civil Air Fleet has extensive powers in connection with the handling of the Russian side of international aviation and is entitled to issue all regulations concerning the technical service rendered to foreign aircraft in Russia, as well as the amounts of fees to be charged for such services. The flag to be used by all civil aircraft in Russia is described in the Code.

7. Resolution of the Central Executive Committee and the Soviet of People's Commissars, April 27, 1932. No. 36/460, Collection of Laws of the U. S. S. R., No. 33, Part I, May 14, 1932. German translation is published in *Archiv für Luftrecht*, Vol. II, No. 3, July-September, 1932, p. 270. The Order of the Chief Administration of the Civil Air Fleet, dated May 7, 1932, No. 94, established charges for the use of the aerodromes and landing points of air routes.

AERIAL CODE OF PANAMA

Four decrees which constitute a complete code of aerial regulations for Panama were signed on August 23, 1932, by President Ricardo J. Alfaro.[8] The decrees are concerned with the supervision by the national government of commercial aviation, aviation schools, the use of parachutes and the entry, departure and traffic of airships. This legislation was the result of a prolonged study on the part of the Commercial Aviation Committee of Panama. In general the provisions of the code are quite similar to, and in many cases almost identical with, the equivalent regulations of the Department of Commerce of the United States.

PAN AMERICAN CONVENTION ON COMMERCIAL AVIATION APPROVED BY COSTA RICA[9]

Legislative and Executive action toward the ratification of the Pan American Convention on Commercial Aviation was taken at San Jose on January 6, 1933, according to the official journal "La Gaceta" of that date. It will be necessary for the deposit of ratification to be made at Habana with the Government of Cuba and the convention will apply to Costa Rica forty days after the deposit of the ratification.

The convention now runs in the Dominican Republic, Guatemala, Mexico, Nicaragua, Panama and the United States of America. The Ibero-American Convention on Air Navigation has been ratified by Costa Rica, the Dominican Republic, Mexico and Paraguay. The International Convention for Air Navigation is effective in Chile, Uruguay, the Dominion of Canada and in all the colonies in the two American continents.

RESOLUTION AND PROPOSALS CONCERNING AIR MAIL SUBMITTED TO THE POSTAL ADMINISTRATIONS BY THE INTERNATIONAL CHAMBER OF COMMERCE[10]

At its XXXIXth meeting (November 30th, 1932) the Council of the International Chamber of Commerce approved the following resolution and proposals concerning air mail prepared by the Air Transport Committee.

The International Chamber of Commerce has the honor of presenting this resolution and these detailed proposals to the Postal Administrations and to the International Bureau of the Universal Postal Union.

The International Chamber of Commerce,

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8. Decree No. 147 of 1932—The Regulation of Commercial Aviation in the Republic of Panama.
Decree No. 148 of 1932—Regulation of Aviation Schools in the Republic of Panama.
Decree No. 149 of 1932—Regulation of Use of Parachutes in the Republic of Panama.
Decree No. 150 of 1932—Arrival and Departure of Aircraft in the Republic of Panama.
Texts in Spanish are officially published in Decretos Reglamentarios de la Aviacion Nacional, Secretaria de Gobierno y Justicia, Panama, Imprenta Nacional, 1932.
Information obtained through the Aeronautics Trade Division, Department of Commerce, Washington, D. C.

9. Information from Aeronautics Trade Division, Department of Commerce, Washington, D. C. See *B. V. York* "International Air Law in the American Republics," 3 JOURNAL OF AIR LAW 411 (1932).

10. From information furnished by the International Chamber of Commerce, Washington, D. C.

Whereas the Postal Administrations graciously accepted the suggestion it presented to them in 1926, with a view to the calling of a special Conference of Postal Administrations for the preparation of new Air Mail Regulations, which conference was held, and led to the Hague Air Mail Arrangement of September 10th, 1927,

Whereas the Regulations now in force, as appearing in the Postal Convention of London (1929) call for amendment in the light of experience,

Presents to the Postal Administrations the following set of suggestions that may be of service to them. These suggestions correspond in particular to the needs of commercial and industrial interests and could usefully be completed by direct exchange of views between the Postal Administrations and air-carriers. The International Chamber of Commerce lays particular emphasis upon the following points which, from the commercial standpoint, seem to be of special importance.

I. General

1. The provisions concerning the carriage of letter mail by air, decided upon at the Hague Postal Conference are not included in the Convention itself but are attached thereto in order to enable special conferences to be called with a view to modifying the above-mentioned provisions should such modification become necessary before the five years intervals between two postal Congresses has come to an end (see Art. VII of the Final Protocol of the Convention).

   Provision was made for the possibility of modifying the provisions in question in view of the fact that the development of air traffic has not yet been reached in its term and that consequently the provisions governing it should be adjusted in all circumstances to the requirements of traffic. This is still necessary today. Great progress has been made in recent years, particularly in the field of night flying and bad weather but at the present time we are on the threshold of a new period of development the characteristic signs of which are the use of rapid aeroplanes and the intensive operation of night mail lines.

   The International Chamber of Commerce asks that Article VII be maintained so that it may be possible to call, during the five years following the Cairo Postal Congress, special Conferences with a view to modifying or completing the provisions concerning the carriage of letter mail by air.

2. It seems to be in the interest of all, whether air-mail users or carriers, that the future Universal Postal Convention should settle the case of "extraordinary cost" services which are not yet governed by any regulation. The regulation of these services should be sufficiently varied, particularly in the matter of remuneration and surtax, in view of the different conditions met with on lines such as the Indies line, the Transsiberian line, the Europe-South American line, etc., but for each of these big routes the remuneration and surtax should be uniform so as to prevent rate competition between air-carriers serving the same countries or groups of countries and to eliminate certain anomalies in the surtax system.

3. As regards the carriage of mail between the metropolis on the one hand and its colonies, protectorates or mandated territories, each State should be left free to decide upon the necessary regulations.

II. Detailed Proposals

A. First Class Mail (Letters and post cards)

1. *Special boxes*

It would be of service if the administrations could provide, as several have already done, at the principal points of large cities as well as in the post offices and railway stations, special letter boxes for air-mail with a table giving the necessary indications as to the principal air-mail lines, hours of collection and postal rates, etc.

These boxes as well as the special boxes provided at the offices of air navigation companies should be emptied not only at special collection rounds, but also at all regular rounds.

It should also be clearly understood, and the public should be so informed, that air mail can be posted not only in special air mail boxes but in all ordinary mail-boxes.

2. *Sorting*

Certain Postal Administrations have opened post offices at aerodromes so that the mail to be transshipped from one airline to another can be sorted so that the air-mail may not miss the connection. It appears indispensable that this measure should be generalized, and that post offices should be established at all the more important aerodromes.

3. *Rapid carriage of air-mail*

It is recommended that all useful measures be taken to insure that air-mail be forwarded as soon as possible by utilizing all through methods of transport.

In particular, it is recommended that special arrangements be made for the forwarding of air-mail by other means of transport. However, when the sender writes on the letter he posts an exact indication of the way he wants it to go (by such and such a company . . .) or merely the general indication AIR MAIL, such indications should be followed by the postal services; in particular, the postal services should not hand over to the railways mail marked AIR MAIL unless the change will save time; unfortunately the postal service sometimes hands over to the railway for a part of its journey mail originally intended to go by air and the train reaches certain stations too late for the mail to catch the aeroplane which has left on time . . . , in that case both the sender and the carrier suffer.

4. *Rapid Distribution of air-mail*

The International Chamber of Commerce particularly emphasizes the necessity of reducing as much as possible the time between the arrival of a mail-plane and the distribution of mail in the city.

It believes that mail carried by air is entitled to special distribution on condition of course that the number of letters carried justifies this measure.

Taking into account the heavy expenses incurred by additional distribution, it recommends agreements between the administrations and the air navigation companies with a view

a) to making the hour of certain distributions coincide as closely as possible with the hour of arrival of mail-planes,

b) to ascertain whether in case where it is not possible to make an air-mail distribution coincide with a regular distribution, it would not be possible to advance or delay the latter within limits to be determined;

Further it would be desirable that administrations organize adequate publicity in favor of express-mail, making known to the public the advantages offered by express distribution in the case of air-mail, on payment of a special express postage.

5. *Air-mail postage rates*

In view of the essential importance to commercial and industrial interests in general, and also to air-carriers themselves (through the development of air-mail traffic that would result) of the greatest possible simplification and unification of regulations relating to postage rates for air-mail, it is recommended:

A. For Europe

If it is not feasible to abolish the air-mail surtax temporarily as propaganda in favor of the carriage of mail by air:

a) that postage rates for air-mail be made uniform in each country for all European countries, allowing two contiguous countries to agree between themselves upon lower rates;

b) that these postal rates be established at as low a level as possible in the interest of trade, but nevertheless corresponding to due remuneration for the services rendered;

B. For countries outside Europe

a) that air-mail surtaxes for a country of destination should be the same in one and the same country of origin whatever air line may be used,

b) that for very long line the scale of weights should be as low and as uniform as possible; if for various reasons it is impossible to establish strictly uniform scales of weights (should certain countries refuse to use any other system than the metric system) the surtax should be in ratio to the net weight of the scales.

6. *Advantageous air-mail lines*

It is recommended that the postal administrations lay particular emphasis upon the value for the public of giving mail to air lines offering real advantages from a postal point of view.

7. *Remuneration of carriers*

As the remuneration that postal administrations pay to air carriers is a matter concerning operation, the International Chamber of Commerce is of opinion that this question should be inquired into by the air-carriers themselves in the International Air Traffic Association.

In the interest of all concerned, the International Chamber of Commerce requests postal administrations not to seek to make profit on the difference between what they collect from the public for mail entrusted to air carriers and the expenses they incur as the result of the introduction of air-mail services.

8. *Letters bearing insufficient stamps*

Postal administrations are urged not to forward air-mail bearing insufficient postage by ordinary mail, but to permit such mail to enjoy the advantage of air transport, subject to all necessary regulations for the collection of the postage due.

9. *Stamps*

It is urged that in all countries air-mail be stamped with either ordinary or special stamps.

10. *Classification of Rates for "Extraordinary cost" services*

For "extraordinary cost" services, the postal matter should be divided into two categories: first, letters and sealed packages; secondly, in one and the same category, all other postal matter; for the second category, the surtax would be one-quarter or one-fifth of the surtax for the first category. This measure is recommended for the sake of simplification and in order to prevent the rates for certain postal matter being too high for the users.

11. *Continuity of service*

The International Chamber of Commerce insists upon the necessity of air-mail services being operated from one end of the year to the other, and on all lines where it is possible every day throughout the year.

B. Parcel Post

The International Chamber of Commerce calls the attention of the postal administrations and of air carriers to the necessity of seeking, in the interest of trade, a new arrangement establishing new air-mail regulations not only for the carriage of ordinary mail but also for the carriage of:

1) parcels post,
2) insured mail and packages,
3) newspapers and other printed papers,

which matters the present regulations cover only partially or not at all.

The International Chamber of Commerce particularly recommends that parcels post carried by air be treated as being letter-post.

It regrets that in certain countries parcels post is not yet admitted for carriage by air and urges that this practice be generalized.

In addition to the above resolution and proposals concerning air mail, the Air Transport Committee of the International Chamber of Commerce also drew up a series of suggestions on barriers to air traffic. The suggestions, intended for inclusion in the report which the International Chamber proposed to submit to the Economic Committee of the League of Nations and to the official international air organizations, dealt with the following subjects: (1) freedom of passage for international air lines and an amendment accordingly to Article 15 of the Convention for Air Navigation of 1919, with a liberal interpretation in the meantime of Article 15; (2) reduction in the number of forbidden zones; (3) liberal permission for the use of special airplanes for urgent transport abroad; (4) less restriction in regard to photographic apparatus and carrier-pigeons; (5) reduction of import duties; (6) free admission of fuel used by aircraft operating on regular lines and uniformity of customs and fiscal treatment of fuel imported and exported in the tanks of aircraft; (7) establishment of a customs office in each important aerodrome with officials on duty at normal arrival and departure times of commercial aircraft, as well as for the time necessary for customs clearance; (8) increase in speed of customs clearance of parcels; (9) establishment of customs warehouses in aerodromes; (10) omission of demand by customs administrations for a detailed declaration for a consignment of goods in transit or any other document, when the aircraft makes only one landing in the country crossed; (11) omission of payment of duty for a load in transit when there is trans-shipment from one company to another; (12) omission of unloading a transit cargo at an aerodrome when the cargo is carried by the same airplane to the point of destination; (13) no duty on goods returned to the place of shipment owing to refusal to accept delivery or other reasons; (14) uniformity of documents accompanying an assignment required for clearance in the country of destination and the use of only two customs declarations; (15) alteration in the service arrangements for police personnel; (16) double taxation and reduction of taxes; (17) reduction in time required for trans-shipment of mail-bags at aerodromes; (18) need for ratification of the Warsaw Convention of 1929 on Transport Contract; (19) need for uniform international legislation governing liability of aircraft operators toward third parties; (20) freedom from seizure; (21) simplified procedure for renewal of visas; (22) and uniform type of identity-card for the personnel of international companies.

A resolution on the internationalization of civil aviation was approved by the Council as follows:

The Air Transport Committee [of the International Chamber of Commerce], without wishing to express an opinion on the political aspects of the problem, and with confidence in the desire of governments for peace as well as in the means they will be able to find in order to assure its

permanence, considers that the internationalization of civil aviation would be a serious obstacle to the free development of commercial aviation as also to the progress of international commerce.[11]

Finally the Council approved a report on the liability of aircraft operators towards third parties on the ground, in conformity with the report prepared by the International Air Traffic Association, and proposed to send it to the International Technical Committee of Aerial Legal Experts (C. I. T. E. J. A.)[12]

MARGARET LAMBIE.

11. See *L. H. Slotemaker*, "Internationalization of Civil Aviation," 3 JOURNAL OF AIR LAW 654 (1932).

12. See "Draft Convention Relating to Liability for Damages Caused to Third Persons on the Surface," 4 JOURNAL OF AIR LAW 97 (1933).

FOREIGN JURISPRUDENCE

Department Editor.....CARL ZOLLMANN

NEGLIGENCE—LIABILITY TO PASSENGERS—BREACH OF STATUTORY DUTY—UNLICENSED PILOT—PROXIMATE CAUSE.—[New Zealand] This was a suit for damages for death of a passenger for hire on one of defendant's air planes. It was admitted that the decedent had accepted the conditions of a ticket, which relieved the carrier from damages for negligence. The pilot held an "A" license[1] (which permitted him to carry passengers, but not for hire), but did not hold a "B" license[2] (which would have permitted the carriage of passengers for hire). It was alleged that the accident was due to negligent pilotage of the plane. The trial judge found, as a fact, that the accident was due to the negligence of the pilot "in attempting to turn into the wind at too low an altitude at a low rate of speed thereby causing the machine to lose flying speed and nose dive." He further ruled: (1) that there was a causal connection between the pilot's lack of a proper license and this negligence (and therefore between the lack of such license and decedent's death); (2) that decedent was a member of a special class for whose benefit the statutory licensing regulation was promulgated; and (3) that the provision in the ticket did not constitute a waiver of this statutory duty to provide a qualified pilot.[3] The defendant appealed to the Court of Appeals, where a majority of the judges held: (1) that the statute and the regulations thereunder created a duty to provide a duly licensed pilot, for the breach of which duty a passenger was entitled to maintain an action; but (2) that no causal connection had been shown between the breach of statutory duty and the accident. The question as to the effect of a ticket provision was, therefore, not decided. *Dominion Air Lines, Ltd.* v. *Strand*, 8 N. Z. L. Jour. 342 (New Zealand Court of Appeal, December 9, 1932).

The instant case seems to be one of two cases in which plaintiffs have attempted to recover because an unqualified pilot was provided. Contentions somewhat similar to those of the present plaintiff were raised in the recent California case of *Pickering* v. *California Airways*,[4] but in that case the court found that the pilot was not negligent and that the lack of a proper license had been waived expressly and with full knowledge. The instant case is likewise disappointing, since the judges in the Appellate Court found, as a fact, that the evidence was insufficient to justify the finding that the pilot had been guilty of negligence.[5] If this conclusion is correct the plaintiff's whole case, necessarily, falls. It is suggested that

1. Roughly equivalent to a private pilot's license under the Air Commerce Act.

2. Roughly equivalent to a transport pilot's license.

3. *Strand* v. *Dominion Air Lines, Ltd.*, 8 N. Z. L. Jour. 54 (New Zealand Supreme Court, Dec. 19, 1931), commented on in 3 JOURNAL OF AIR LAW 659.

4. 67 Cal. App. Dec. 442, 4 Pac (2d) 271 (1931), commented on in 3 JOURNAL OF AIR LAW, 322 (1932).

5. Apparently the possibility of applying the doctrine of *res ipsa loquitor* was not suggested.

the same result would have followed, however, if the court had been willing to agree that the pilot was in fact negligent. Treating plaintiff's case at its best, it is still true that decedents had waived all claims for the negligence of a "B" pilot. For them to recover, therefore, it was necessary to show that the negligence of the pilot involved was other than that of a "B" pilot. When it was considered that he held an "A" license, which certified to *some* degree of flying skill, it is apparent that the difficulties of proof, although not absolutely insurmountable, would be considerable and normally impracticable.

ROBERT KINGSLEY.

COMMENTS, DIGESTS

Department Editors..... { ROBERT KINGSLEY / CHARLES G. BRIGGLE, JR.

COMMENTS

GASOLINE TAX—COMMERCE—STATE TAX ON GASOLINE USED IN INTERSTATE COMMERCE.—[Federal] An Idaho statute requires each dealer engaged in the sale of motor fuels to pay a license tax of five cents per gallon on all motor fuels sold and/or used by him in the state of Idaho.[1] The term "dealer" is defined to include anyone who imports motor fuel.[2] A bill to enjoin officers of the state from collecting the tax was brought by plaintiff, an interstate air carrier, which does not sell gasoline within the state, but imports it for its own use in propelling its airplanes in interstate commerce. *Held:* Perpetual injunction granted. From the terms of the statute only a "dealer" who is engaged in the sale of motor fuel is subject to the tax. Although plaintiff is a "dealer" within the meaning of the statute, it did not engage in the sale of motor fuels: *Varney Air Lines, Inc.* v. *Babcock*, 1 F. Supp. 687 (S. D. Idaho 1932).

The court's conclusion that plaintiff was not included within the terms of the statute seems quite correct. It is interesting to note that a subsequent section of the Idaho revised statutes requires every dealer in motor fuels to render a monthly statement of the number of gallons of motor fuels imported into the state, and sold and/or used by him during the preceding calendar month.[3] The latter section is not limited to those dealers who engage in the sale of motor fuels, but since the section contains no taxing provision, it does not affect the instant case.

A further question of constitutionality in application to interstate air carriers would arise if the statute were amended to omit the words "engaged in the sale of motor fuels," to interstate air carriers. By way of dicta, the court in the instant case upheld the tax as a valid charge for the use of air navigation facilities that the state furnishes. Prior to the decision in *Eastern Air Transport, Inc.* v. *South Carolina Tax Commission*[4] a tax on the sale of gasoline destined to be used by airplanes engaged in interstate commerce was considered valid as a reasonable charge for the privilege of using municipal airports.[5] It is now unnecessary to sustain a sales tax as a charge for facilities furnished.[6] However, since a state may exact a tax from agencies of interstate commerce for the privilege of using public highways,[7] it would appear that the state may logically charge interstate commerce agencies for the use of public airports. A tax on automobiles

1. Idaho Code 1932, ch. 48, sec. 702.
2. Ibid, sec. 701.
3. Ibid, sec. 703.
4. 285 U. S. 147, 52 S. Ct. 340 (1932).
5. *Boeing Air Transport, Inc.*, v. *Edelman*, 51 F. (2d) 130, D. C. Wyoming; partially affirmed on other grounds, 61 F. (2d) 319 (C. C. A. 10th 1932); comment 4 JOURNAL OF AIR LAW 113; Opinion of Attorney General Michigan 1931, U. S. Av. Rep. 162 (Dec. 17, 1930).
6. *Eastern Air Transport, Inc.* v. *South Carolina Tax Commission*, supra.
7. *Hendrik* v. *Maryland*, 235 U. S. 610, 35 S. Ct. 140 (1914).

engaged in interstate commerce based upon their mileage within the state has been held valid.[8] It is submitted that the amount of tax levied on interstate airplanes for the use of public airports may reasonably be assessed on the basis of gasoline consumption within the state.

RAYMOND I. SUEKOFF.

INSURANCE—EXCEPTION CLAUSE—INCONTESTABILITY.—[Washington] The plaintiff insurance company sought in this action against the state insurance commissioner an adjudication of its right to insert in its life insurance policies the following exception:

"Except as hereinbelow provided, death resulting directly or indirectly, in whole or in part, from being in or on any vehicle or mechanical device for aerial navigation, or from falling therefrom or therewith, or while operating or handling any such vehicle or device, is a risk not assumed under this Policy, but in the event of death so occurring, the Company will pay the reserve under this Policy and the Policy shall thereupon be terminated. "Exception: This Policy covers the death of the Insured while riding as a fare-paying passenger in a licensed passenger aeroplane or a licensed passenger dirigible owned and provided by an incorporated passenger carrier for passenger service and while operated by a licensed passenger pilot on a regular passenger schedule over a definitely established regular passenger route of such carrier and between definitely established air ports."

In the insurance code there was a provision that all life policies "shall be incontestable from two years from its date of issue, except for non-payment of its premiums, and except for violation of the conditions of the policy relating to military or naval service in time of war." The insurance commissioner refused to approve the aviation exclusion clause because of its alleged repugnancy to the incontestable provision in the insurance code. The Superior Court awarded the insurance company the relief which it had asked. The commissioner appealed to the Supreme Court. *Held:* that the insurance commissioner be restrained from interfering with the plaintiff's insertion of the aviation clause. *Pacific Mutual Life Insurance Company* v. *Fishback.*[1]

This decision is in accord with the holding of the New York court in *Metropolitan Life Ins. Co.* v. *Conway.*[2] In that case the rider in question provided that "death as a result of service, travel or flight in any species of aircraft, except as a fare-paying passenger, is a risk not assumed under this policy . . . ." Possible conflict was suggested between that provision and the insurance law which read into every policy an incontestable provision substantially the one in the instant case. Mr. Chief Justice Cardozo, in holding that there was no conflict, pointed out the difference between "a denial of coverage" and "a defense of invalidity":

"Provisions are not unusual that an insured entering the military or naval service shall forfeit his insurance. A condition of that order is more than a limitation of the risk. In the event of violation, the policy, at the election of the insurer, is avoided altogether, and this though the death is unrelated

8. *Interstate Busses Corporation* v. *Blodgett,* 276 U. S. 245, 48 S. Ct. 230 (1927).

1. 17 P. (2d) 841. Decided January 6, 1933. Supreme Court, Washington.

2. *Metropolitan Life Ins. Co.* v. *Beha,* 226 App. Div. 408, 235 N. Y. S. 501 (1929), affirmed in *Metropolitan Life Ins. Co.* v. *Conway,* 252 N. Y. 449, 169 N. E. 642 (1930).

to the breach. No such result follows where there is a mere restriction as to coverage. The policy is still valid in respect of risks assumed."

See also *Mack* v. *Connecticut General Life Ins. Co.*[3]

This case was followed in *American Home Foundation* v. *Canada Life Assurance Co.*[4] and in *Head* v. *New York Life Insurance Co.*[5] (a federal case in which the New York law was construed). It is the accepted New York doctrine. Apparently the only case involving the exclusion clause for air travel decided contrary to it is *Bernier* v. *Pacific Mutual Life Insurance Co.*[6] The stipulation in the policy there involved was "it is hereby understood and agreed in the event of the death of the insured arising . . . from engaging in aerial navigation. except while riding as a fare-paying passenger in a licensed commercial aircraft provided by an incorporated common carrier for passenger service. . . . the only liability under this policy shall be for a sum equal to the premiums paid thereon, and the policy shall thereupon be terminated." The airplane in which the insured was killed did not satisfy these specifications. The insurance company, maintaining that their liability was but for the amount of the premiums, relied upon the *Conway* case. The Louisiana Supreme Court might in this case have held for the insurance company and yet reconciled their decision with the New York rule as expressed in the *Conway* case. The court, however, preferred to hold that "if the insurance company intended to except also, from the incontestable clause, a violation of the conditions relating to aerial navigation, that exception, like the exception relating to military or naval service in time of war, should have been expressed."[7] In other words, the court refused to read into the incontestability clause any exception which was not there expressed, nor did it specifically assert, as it might well have done, that the aviation clause made any violation invalid rather than merely that it excepted such a risk from the coverage.

These two cases apparently represent diverse attitudes towards the nature of an incontestability clause. The present case, in following the New York rule, has chosen the logic which seems the more convincing.

GEORGE W. BALL.

NEGLIGENCE—AIRCRAFT COLLISION WITH TRUCK LEFT UNATTENDED ON THE FIELD—DUTY TO KEEP RUNWAYS CLEAR—CONTRIBUTORY NEGLIGENCE.—[New York] The plaintiff had his plane lined up with several others in front of their hangars. He stepped into the cockpit for the purpose of taxiing over to the gas tank. At this particular point, because of adjacent planes, he was unable to observe the path he was to take down the field. When he came onto the field, however, his vision was unobstructed. A glance to the right could have brought to his attention a truck which had been left standing there by some workmen. The plaintiff testified that he took a "casual glance" down the field but saw nothing. While taxiing down the runway, he collided with the truck and damaged his right wing and propeller. This action is brought against the airport company to recover compensation for injuries to his plane. The court applied the ordi-

3. 12 F (2d) 416 (1926).
4. 1932 U. S. Av. Rep. 55.
5. 43 F (2d) 517, 1930 U. S. Av. Rep. 235 (1930).
6. 173 La. 1078, 139 So. 629 (1932).
7. Page 1079.

nary rules of tort law to dispose of the case. It was admitted that the defendant airport company was obliged to keep the runways unobstructed and hence they were negligent. Recovery, however, was denied on the basis of the court's finding that the plaintiff had not exercised reasonable care to see that the course he was pursuing was not dangerous. Furthermore, it did not matter that he had the right of way, for he was still bound to use reasonable care to avoid a collision.[1]

The decision above digested may be commented upon in four phases. (1) Was the defendant airport company legally obligated to clear the runways? (2) What would constitute contributory negligence in the present factual situation? (3) Who is to shoulder the burden of evidence, to establish or defeat the doctrine of contributory negligence? (4) What is the effect of the mutual fault?

(1) The plaintiff was either a tenant or invitee of the airport company. If a tenant, the airport would owe a duty to keep the runways clear; for "* * * the airport proprietor is liable for injuries resulting to the tenants for defects in those portions of the field which the tenant is expressly or impliedly permitted to use, and which are still under the control of the proprietor."[2] If the plaintiff were not a tenant (the facts do not definitely indicate his status), then surely he can be placed in the category of an invitee. The mutual interests of the parties is the test to determine the existence of an invitee relation, as distinguished from a mere licensee, where the plaintiff is on the field by permission but for his own benefit.[3] It is assumed the aviator was invited to use the field, and therefore the defendant must use reasonable care to render the premises safe.[4] An airport is not free from dangers. The invitor must circumvent those dangers to the same degree as would men of ordinary prudence in like circumstances.[5] Where fairs were held, the courts have assessed damages upon the sponsors thereof for injuries to spectators, because the invitation to attend implied an assertion that the spectacle could be safely witnessed.[6]

In the instant case, it might be said the obstruction was occasioned by some third party, a workman, rather than the airport proprietor. Liability would nevertheless be imposed either on the theory of *respondeat superior*, or for permitting a dangerous situation to exist, if it is decided that the workman was an independent contractor.[7] It must be conceded that an obstructed runway is dangerous. To pilots in the present plaintiff's position, that is, to those who are still on the ground, the danger is minimized,

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1. *Read* v. *New York City Airport, Inc. et al.*, Municipal Court of City of N. Y., Borough of Queens, 6th District, Aug. 29, 1932, 233 C. C. H. 520.
2. *Logan*, "The Liability of Airport Proprietors," 1 JOURNAL OF AIR LAW 263 (1930), and cases cited.
3. *Milauskis* v. *Terminal R. Assn. of St. Louis*, 286 Ill. 547, 122 N. E. 78 (1919); *Grogan* v. *O'Keefe's Inc.*, 267 Mass. 189, 166 N. E. 721 (1929).
4. *Giannini* v. *Compodonico*, 176 Cal. 548, 169 P. 80 (1917); *Flynn* v. *Central Ry. of N. J.*, 142 N. Y. 439, 37 N. E. 514 (1894); *Corbin* v. *Haws Refractories Co.*, 277 Pa. St. 126, 120 A. 811 (1923).
5. Ibid.
6. *Platt* v. *Erie Co. Agric. Soc.*, 164 App. Div. 99, 149 N. Y. S. 520 (1914); *Smith* v. *Cumberland Co. Agric. Soc.*, 163 N. C. 346, 79 S. E. 632 (1913); *Richmond & Manchester Ry. Co.* v. *Moore's Adm'r.*, 94 Va. 93, 27 S. E. 70 (1897).
7. *Canney* v. *Rochester Agric. Soc.*, 76 N. H. 603, 79 A. 517 (1911); *Roper* v. *Ulster Co. Agric. Soc.*, 136 App. Div. 97, 120 N. Y. S. 644 (1909); *Smith* v. *Cumberland Co. Agric. Soc.*, supra; *Richmond & Manchester Ry. Co.* v. *Moore's Adm'r.*, supra.

but those who are in the air and are about to land are confronted with a real danger.

(2) The municipal court, in the reported case, arrives at its rather flexible decision in a somewhat cursory manner. Recovery is barred because the plaintiff did not exercise reasonable care for his own safety. Let us proceed to some of the precedent in an attempt to illuminate the surface expressions of the court.

Primarily, the plaintiff failed in his duty to keep a proper lookout. The courts when dealing with automobile situations have universally required the driver to maintain a reasonably careful lookout for other travelers and for dangers on the highway.[8] Failure to keep a proper lookout will amount to contributory negligence.[9] This duty to look fluctuates with the character of the machine used and the locality and surroundings in which it is being used. The judgment rests largely with the jury.[10] Thus, the driver of a heavily loaded truck was required to maintain a vigilant watch at all times.[11] Then again, when making a grade crossing, a more careful observation in both directions is necessitated by reason of the nature of steam locomotion.[12] In fact, a standard of conduct has at times been announced requiring the motorist to stop his car, then look and listen before crossing railroad tracks.[13] During night driving the duty to maintain a lookout is correlated with the duty to have proper lights.[14] Failure to have such lights will be negligence as a matter of law.[15] Or as expressed in *Kelly* v. *Knabb*,[16] the hitting of a parked car at night as alleged in the declaration constitutes contributory negligence in itself. These last two propositions really tend toward the rather extreme doctrine requiring an individual to "drive within the radius of his lights." Any accident that does occur is concluded to be by reason of a violation of that principle.[17] The application of the doctrine of driving within the radius of one's lights does not reach the realities of night driving; it indicates, however, the extent to which courts will go in requiring a proper lookout.

Generally the courts have said the duty to look implies the duty to see.[18] "In its present state the law is not able to protect one who has eyes and will not see, ears and will not hear."[19] In Massachusetts, the same tendency is expressed by the application of the doctrine of "negligent looking." The court will review the circumstances, and if they find that the accident occurred in broad daylight, that the plaintiff realized the dangers and was proceeding at a low speed, and that there were no obstructions, they will presume that a reasonable look would have avoided

8. *Cooper* v. *Agee*, 222 Ala. 334, 132 S. 173 (1930); *Williams* v. *Frederickson Exp. Lines*, 198 N. C. 193, 151 S. E. 197 (1930).
9. *Broman* v. *Kimball*, 112 Kan. 186, 210 P. 191 (1922); *Hunter* v. *Montfort*, 117 Me. 555, 102 A. 975 (1918); *Deal* v. *Snyder*, 203 Mich. 273, 168 N. W. 973 (1918); *Romp* v. *Osborne*, 115 Ore. 672, 239 P. 112 (1925).
10. *Dole* v. *Lublin*, 112 Conn. 603, 153 A. 812 (1931); *Williams* v. *Frederickson Exp. Lines*, supra; *Graham* v. *Hagmann*, 270 Ill. 252, 110 N. E. 337 (1915).
11. *Campbell & Sons* v. *Central Rys. & Elec. Co.*, 160 Md. 647, 164 A. 552 (1931).
12. *Graham* v. *Hagmann*, supra; *Baker* v. *Close*, 204 N. Y. 92, 97 N. E. 501 (1912).
13. *B. & O. R. Co.* v. *Goodman*, 275 U. S. 66, 48 Sup. Ct. 24 (1927).
14. *Steele* v. *Fuller*, — Vt. —, 159 A. 666 (1932).
15. *Haines* v. *Carroll*, 126 Kan. 408, 267 P. 986 (1928).
16. 300 F. 256 (Dist. Ct., S. D. Fla., 1924).
17. *Wilkins* v. *Bradford*, 247 Mich. 157, 225 N. W. 609 (1929).
18. *Sellon* v. *Tanner*, 252 Mich. 231, 233 N. W. 224 (1930); *Howell* v. *Schultz*, 182 Wis. 612, 197 N. W. 186 (1924).
19. *Harrison* v. *R. R.*, 194 N. C. 656, 140 S. E. 598, 601 (1927).

the injury. Therefore, even though the plaintiff claims to have kept a lookout, he is taken to have been negligent in that function.[20] All the above circumstances were part of the present case; could any alleged lookout be considered reasonable?

The duty to keep a proper lookout is further complicated by the existence of collateral presumptions. It has been asserted that no man is bound to assume the negligence of another.[21] In other words a presumption arises that others will exercise ordinary care. In the instant case, this presumption would lead to the conclusion that no obstruction would be allowed on the field, and as a consequence the necessity of keeping a lookout would be diminished. In the motor vehicle cases, the driver is permitted to proceed on the assumption that the road is reasonably safe.[22] However, that does not absolve the driver from the duty to use reasonable care for his own safety and therefore keep a lookout.[23] A somewhat analogous situation occurs where the plaintiff has a right of way by reason of a green light, reaching an intersection first, or being on the right of an approaching vehicle. It might more strongly be argued that the plaintiff can proceed in reliance upon others observing his right of way. It has been universally held, however, that the motorist is still required to observe due care to protect others from a collision.[24] This view is in accord with the pronouncement in the present case. The policy underlying the utilization of the formula is sound. The law above all should attempt to prevent injuries from occurring rather than to grope doctrinarily for legal rights. It has been said that an insistence upon a right of way in view of dangers to others is the grossest kind of negligence.[25]

(3) A conflict of authorities may be noted when the courts determine who is to furnish the evidence of contributory negligence: the defendant to establish the plaintiff's breach of duty, or the plaintiff to free himself from the implications of a want of reasonable care. The majority of jurisdictions abide in the legal presumption against negligence. As a consequence the burden is cast upon the defendant to show contributory negligence. When confronted by a danger, the normal response would be in the direction of self-preservation.[26] Contributory negligence is thought of as an affirmative defense and therefore to be established by the defendant.[27] This burden is fulfilled by a preponderance of evidence. Such a

20. *Pigeon* v. *Mass. N. E. St. Ry.*, 230 Mass. 392, 119 N. E. 762 (1918); *Newton* v. *Worcester Consol. St. Ry. Co.*, 273 Mass. 490, 174 N. E. 135 (1930).
21. *Kaminski* v. *Fournier*, 235 Mass. 51, 126 N. E. 279 (1920); *Tischler* v. *Steinholtz*, 99 N. J. L. 149, 122 A. 880 (1923); *Trentman* v. *Cox*, 118 Ohio St. 247, 160 N. E. 715 (1928); *Bew* v. *Daley*, 260 Pa. St. 418, 103 A. 832 (1918).
22. *Morgan Hill Paving Co.* v. *Fonville*, 218 Ala. 566, 119 S. 610 (1928); *Kendall* v. *City of Des Moines*, 183 Ia. 866, 167 N. W. 684 (1918); *Raymond* v. *Sauk Co.*, 167 Wis. 125, 166 N. W. 29 (1918).
23. *Kendall* v. *City of Des Moines*, supra.
24. *Rose* v. *Campitello*, 114 Conn. 637, 159 A. 887 (1932—green light); *Riddle* v. *Mansager*, 254 Ill. Ap. 68 (1929); *Benson* v. *Tucker*, 252 Mich. 385, 233 N. W. 354 (1930); *Primock* v. *Goldenberg*, 161 Minn. 160, 200 N. W. 920 (1924); *Webber* v. *Graves*, 234 App. Div. 579, 255 N. Y. S. 726 (1932); *Byrne* v. *Schultz*, 306 Pa. St. 427, 160 A. 125 (1932); *Foley* v. *Taylor*, 121 Wash. 401, 209 P. 698 (1922—arriving at intersection first); *Wallace* v. *Papke*, 201 Wis. 285, 229 N. W. 58 (1930).
25. *Primock* v. *Goldenberg*, supra.
26. *Bradley* v. *Mo. Pac. Ry.*, 288 F. 484 (C. C. A. 8, 1923).
27. *Wabash Ry.* v. *Lamboy*, 299 F. 124 (C. C. A. 8, 1924); *Sopherstein* v. *Bertels*, 178 Pa. St. 401, 35 A. 1000 (1896); *Mo. K. & T. Ry. Co. of Tex.* v. *Hogan*, 88 Tex. 699, 32 S. W. 1035 (1895); *Friedrick* v. *Boulton*, 164 Wis. 526, 159 N. W. 803 (1916).

preponderance may be gained from the evidence introduced by the plaintiff.[28]

The minority on the other hand view the absence of contributory negligence as part of the cause of action. The defendant may be negligent but he doesn't actually owe a duty to protect the plaintiff unless the latter has himself exercised reasonable care. The plaintiff must then in the first instance show he is free from contributory negligence.[29] Statutes have been enacted in several of the minority jurisdictions, expressly requiring the defendant to prove contributory negligence.[30]

(4) After evidence of negligence and contributory negligence has been established it next becomes necessary to determine the effect of such evidence. According to the English rule, when "the plaintiff himself so far contributes to the misfortune by his own negligence or want of ordinary . . . care . . . that but for such negligence . . . on his part, the misfortune would not have happened," recovery is denied.[31] This view has been substantially followed in the great majority of American jurisdictions. Mutual fault eliminates the cause of action.[32] This doctrine avoids the necessity of weighing different degrees of negligence and the apportioning of damages. It serves to simplify the judicial machinery. The opposite legal pole utilizes the doctrine of comparative negligence, to give relative weight to the negligence of both parties. Most courts have considered contributory negligence an insufficient defense as against the defendant's wilful and wanton or gross negligence.[33] This rule is to be distinguished from the problem of comparative negligence where the judicial function is concerned with the measuring of slightly varying degrees of negligence, and then mitigating damages accordingly. The distinction is one of degree and therefore difficult to maintain in close cases.

Various states have at times given voice to the doctrine of comparative negligence only to repudiate or modify it later. In Kansas in the early case of *Union Pac. Ry. Co.* v. *Collins*,[34] comparative negligence was used. In later cases the court renounced the use of the doctrine to measure and set-off slight differences of negligence. They were willing to allow

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28. *Indianapolis & St. L. Ry. Co.* v. *Horst*, 93 U. S. 291 (1876); *Sopherstein* v. *Bertels*, supra.

29. *West Chi. St. Ry. Co.* v. *Lederman*, 187 Ill. 463, 58 N. E. 367 (1900); *Segal* v. *Chi. City Ry. Co.*, 256 Ill. Ap. 569 (1930); *Smith* v. *N. E. Cotton Yarn Co.*, 225 Mass. 287, 114 N. E. 353 (1916); *Vinton* v. *Plainfield Tp.*, 208 Mich. 179, 175 N. W. 403 (1919); *Bulton* v. *Hudson River R. Co.*, 18 N. Y. 248 (1858); *Wendall* v. *N. Y. C. & H. R. R. Co.*, 91 N. Y. 420 (1883—infant required to show he exercised that degree of care required of him).

30. *Indianapolis St. Ry. Co.* v. *Robinson*, 157 Ind. 232, 61 N. E. 197 (1901), *Indiana Act*, 1889, p. 58; *Duggan* v. *Bay State St. Ry. Co.*, 230 Mass. 370, 119 N. E. 757 (1918), Mass. St., 1914, c. 553, Sec. 1; *Horton* v. *N. Y. C. R.*, 237 N. Y. 38, 142 N. E. 345 (1923), *Civil Practice Act*, 265; but cf. *Potnick* v. *Lehigh Valley R. Co.*, 256 N. Y. S. 232, 235 App. Div. 22 (1932—where the court neglected the Practice Act, by requiring the plaintiff to prove the absence of contributory negligence).

31. *Tuff* v. *Warman*, 5 C. B. (N. S.) 573, 585 (1858).

32. *Sego* v. *So. Pac. Co.*, 137 Cal. 405, 70 P. 279 (1902); *Lanier* v. *Minn. & St. P. & S. S. M. R. Co.*, 209 Mich. 302, 176 N. W. 410 (1920); *Rushford-Surine* v. *Grand Trunk Ry. Co.*, 239 Mich. 19, 214 N. W. 168 (1927—unobstructed view); *Monongahela City* v. *Fischer*, 111 Pa. St. 9, 2 A. 87 (1886); *Goff* v. *Borough of College Hill*, 259 Pa. St. 343, 149 A. 477 (1930).

33. *Little* v. *Blue Goose Motor Coach Co.*, 346 Ill. 266, 178 N. E. 496 (1931); *Isaacson* v. *Boston W. & N. Y. St. Ry. Co.*, 278 Mass. 378, 180 N. E. 118 (1932); *Simon* v. *Detroit United Ry.*, 196 Mich. 586, 162 N. W. 1012 (1917); *Tomasik* v. *Lanferman*, 206 Wis. 94, 238 N. W. 857 (1931). Contra: *Sego* v. *So. Pac. Co.*, supra.

34. 5 Kan. 167 (1869).

the plaintiff to maintain an action if his negligence was only trivial, while the defendant's was gross.[35]

In Illinois the court indulged in see-saw activities in its application of the comparative negligence set-up. In *Aurora Branch R. Co.* v. *Grimes*,[36] contributory negligence barred recovery. However, the court departed from that view, with the use of the following language: "The more gross the negligence manifested by defendant, the less degree of care will be required of the plaintiff to enable him to recover. * * * The degrees of negligence must be measured and considered and wherever it shall appear that the plaintiff's negligence is comparatively slight and that of defendant's gross, he shall not be deprived of his action."[37] This view was approved in later cases.[38] The doctrine was repudiated, however, and by the now prevailing view contained in *Macon* v. *Holcomb*,[39] contributory negligence destroys the right to bring an action.

In Tennessee, the courts first used contributory negligence merely in mitigation of damages,[40] but they later modified the doctrine, effectuating a bar to recovery when the plaintiff contributed directly to the injury. But if his contributory negligence was remote they retained it to mitigate damages.[41] This view seems only to tend toward confusion. In Mississippi, a similar formula appears. Unless the plaintiff's contributory negligence was the sole proximate cause of the accident it will only be used in mitigation of damages.[42]

The Georgia court adopts yet another variation. The plaintiff may recover though guilty of contributory negligence. However, when he does discover defendant's negligence he is bound to use reasonable care to avoid the injury.[43]

Many statutes have been enacted which adopt the theory of comparative negligence to apportion damages in certain types of cases, usually where a railroad is involved, the running of trains, or suit by an employee.[44]

In admiralty cases, contributory negligence does not bar recovery, but only goes to a reduction of the amount of damages recoverable.[45] The admiralty courts are allegedly competent to apply the theory of comparative negligence, for not only are there no juries, but the proceedings are summary.[46] At common law with the "almighty" jury pervading the judicial atmosphere, fine distinctions would only be muddled in the jury room by personal judgments. So it has been said the common law has refused the

35. *Kan. Pac. Ry. Co.* v. *Peavey*, 29 Kan. 169 (1883); *Atcheson T. & S. F. R. Co.* v. *Henry*, 57 Kan. 154, 45 P. 576 (1896); *Mo. Pac. Ry. Co.* v. *Walters*, 78 Kan. 39, 96 P. 346 (1908)—classification into degrees of negligence no longer permitted).

36. 13 Ill. 585 (1852).

37. *Galena & C. O. R. Co.* v. *Jacobs*, 20 Ill. 478 (1858).

38. *Chi. B. & O. R. Co.* v. *Warner*, 123 Ill. 38, 14 N. E. 206 (1887—requiring an instruction, that plaintiff exercise ordinary care).

39. 205 Ill. 643, 69 N. E. 79 (1903).

40. *Nash & C. R. Co.* v. *Smith*, 53 Tenn. 174 (1871).

41. *Ry. Co.* v. *Hull*, 88 Tenn. 33, 12 S. W. 419 (1889); *Bejack* v. *Colby*, 141 Tenn. 686, 214 S. W. 809 (1919).

42. *Dent* v. *Town of Mendenhall*, 139 Miss. 271, 104 S 82 (1925).

43. *Central of Ga. Ry. Co.* v. *Tribble*, 112 Ga. 863, 38 S. E. 356 (1901).

44. *Federal Employers' Liability Act*, 45 U. S. C. A., P. 53; *Comp. Genl. Laws of Fla.* (1927), Sec. 7052; *Laws of N. C.*, 1913, Ch. 6, Sec. 2; *Genl. Code of Ohio* (1921), Sec. 9018 (discussed in *Hiskett* v. *Pa. Co.*, 245 F. 326 (C. C. A. 6, 1917)); *Arkansas*, Crawford and Moses Dig., Sec. 8575, *Acts of Ark.*, 7919, p. 143.

45. *Max Morris*, 28 F. 881 (Circ. Ct., S. D. N. Y., 1886), Aff. 137 U. S. 1; *Carter* v. *Brown*, 212 F. 393 (C. C. A. 5, 1914); *The Apurimac*, 7 F. (2d) 741 (Dist. Ct., E. D. Va., 1925).

46. *Max Morris*, supra.

doctrine of comparative negligence because it possesses no scales to determine which wrongs weigh more. In the words of Strong, J., in *Heil* v. *Glanding*,[47]

"The reason why, in cases of mutual concurring negligence, neither party can maintain an action against the other, is not that the wrong of the one is set off against the wrong of the other, it is that the law cannot *measure* how much the damages suffered is attributable to the plaintiff's own fault. If he were allowed to recover it might be that he would obtain from the other party compensation for his own misconduct."

It seems to me that primarily underlying this rule is the public policy that when there are two parties who have wronged, the court will leave them to take care of themselves.[48]

We are here dealing with a new situation; it is essential that the proper rule be employed. The rules of law applicable to torts on land seem appropriate. The collision occurred on land. Besides, the Uniform State Law for Aeronautics, Section 6, would favor this application even in case of collisions between aircraft. The proof of negligence is normally a nebulous undertaking, but in cases of aircraft collisions it becomes even more difficult. One can quite agree with the result reached in the instant case yet might wish to limit its application to accidents on the ground and employ the theory of comparative negligence for collisions occurring in mid-air. In those cases participants are usually dead, evidence of negligence or contributory negligence is scarce, the rights of the parties could not be accurately ascertained; comparative negligence would then divide the damages equally.

The doctrine permitting an apportionment of damages would seem to reach a more just result. Admittedly, both parties are at fault, but that is no reason to let one go free and shift the entire burden upon the injured party. Legislators have seen the wisdom of an apportionment of damages where employees were involved. Admiralty has accepted the doctrine as a part of its flexible proceeding. The adoption of all admiralty proceedings in state courts would be very tenuous because of the varying and unfamiliar rules of administration.[49] The incorporation of comparative negligence into aeronautics law however, either as a principle of admiralty law or as a former common law view, seems justified.

The extreme difficulties, that have been indicated above, in the use of the negligence formula as a means of assessing liability in cases involving aircraft, might be overcome or greatly relieved through compulsory airplane insurance.[50]

LEO FREEDMAN.

NEGLIGENCE—AIRCRAFT ACCIDENT—EFFECT OF VIOLATION OF AN ADMINISTRATIVE REGULATION.—[Maryland] In the recent case of *Beall* v. *McLeod*,[1] plaintiff's husband, a passenger in defendant's plane, was killed when the plane crashed from a height of two hundred feet, the accident allegedly

47. 42 Pa. St. 493, 499 (1862).
48. *Button* v. *Hudson River R. Co.*, 18 N. Y. 248 (1858).
49. *Hotchkiss, Aviation Law* (1928), p. 34.
50. *Ball*, "Compulsory Airplane Insurance," 4 JOURNAL OF AIR LAW 52 (1933).

1. Superior Court of Baltimore City, Maryland, June 1, 1932. Not officially reported. 1932 U. S. Av. R. 94.

resulting from the unairworthy condition of defendant's plane. At the time of the crash defendant was violating two Air Commerce regulations: he was disregarding the terms of his Limited Commercial Pilot's License by taking passengers for hire outside the limits of the area specified in the license; he was carrying passengers in a plane which had not been licensed, but only registered for identification. Several issues were raised in the case,[2] but for present purposes the only problem to be considered is the evidentiary significance of the violation of an administrative regulation. The court instructed that "The violation of the rule . . . is not of itself negligence, and before the plaintiff is entitled to recover he must establish by a preponderance of the evidence that the violation of the rule was the proximate cause of the accident."

This question has arisen in but few air cases, none of which has gone beyond the trial court on the point. In *Herrick, Olsen et al* v. *Curtiss Flying Service and Byrnes*[3] it was charged that "the effect of a violation of . . . these [administrative] rules is not of itself evidence of negligence . . . A result of the violation of such . . . rules . . . is always a question which the jury may take into consideration in determining whether or not the violation was negligence, but, of course, the violation must have been the proximate cause of the accident in order for you to take then into consideration." In *Ziser* v. *Colonial Western Airways, Inc.*,[4] the court instructed that "The effect of the violation of the New Jersey statute and of any one of these rules is not negligence. . . . When rules are adopted . . . the effect of them is to warn persons that it is dangerous to operate aircraft other than in accordance with these rules. Therefore, when an accident occurs . . . as the result of the violation of such statutes and rules, it is always a question which the jury may take into consideration as to whether or not their violation was not negligence; but of course . . . the results of such violation must have been . . . the proximate cause of the accident in order for you to take them into consideration."

The above quoted instructions do not represent the current doctrine concerning the evidentiary weight of the violation of an administrative regulation. That doctrine, as set forth in the leading case of *Schumer* v. *Caplen*[5] concedes that the violation of a regulation can never be negligence per se, but it allows such a violation to be considered as some evidence of negligence. In the instant case and its two companion cases[6] the courts, by importing principles of statutory use into the administartive field, have laid the foundations for a legal tower of Babel. The effect of the violation of a statute or ordinance in a civil case may be negligence per se,[7] it may be only a prima facie case of negligence,[8] or it may be merely some

2. Degree of care required of one carrying passengers for hire; assumption of risk by a passenger; burden of proof in an action for negligence.

3. Supreme Court, Nassau County, New York, June 27, 1932. Not officially reported. 1932 U. S. Av. R. 110.

4. State of New Jersey, Supreme Court of Essex County, April 10, 1931. Not officially reported. 1932 U. S. Av. R. 110. For comment, see p. 285 of this number.

5. 241 N. Y. 346, 150 N. E. 139 (1925).

6. *Herrick, Olsen et al.* v. *Curtiss Flying Service and Byrnes*, supra note 3; *Haggymasi* v. *Western Airways*, supra note 4.

7. *Carroll Blake Construction Co.* v. *Boyle*, 140 Tenn. 166, 203 S. W. 945 (1918); *Propulonris* v. *Goebel Construction Co.*, 279 Mo. 358, 213 S. W. 792 (1919); *Partridge* v. *Eberstein*, 225 Ill. App. 205 (1922).

8. *Amberg* v. *Kenley*, 214 N. Y. 521, 108 N. E. 830 (1915); *McElhinney* v. *Knittle*, 199 Ia. 278, 210 N. W. 586 (1925).

evidence of negligence.[9] The violation must be the proximate cause of the injury.[10] The statute or ordinance must have been intended for private protection, as well as a public purpose,[11] or more particularly, it must have been intended to include within its scope the particular object toward which the duty violation occurred.[12]

The confused rulings in statute and ordinance cases should not be allowed to cut down the operative scope of commission rules. Principles of statutory application have no place in the administrative field, in view of the clear-cut distinction between regulations and statutes. The regulations concerning the objects within the scope of a commission's powers are ordinarily a compact body of interrelated rules, designed to fill out the details of a regulative pattern. Violation of such a rule is indicative of remiss conduct toward the principal object of the group of rules, regardless of the immediate causal connection between the violation and a subseqeunt mishap.[13] Although administrative regulations are by statute given the force and effect of law, they do not fall within the category of legislation,[14] and should not be interpreted as if they were legislative enactments. In the instant case this factor has seemingly been omitted from consideration. The result is a departure from the simple rule of *Schumer* v. *Caplen*,[15] which represents the high point of judicial astuteness in recognizing the distinction between statutes and regulations, as well as the essentially differing applications adapted to each class.

The introduction of the doctrine of proximate cause is an obnoxious feature of the instant case. Proximate cause as used in cases of statutory application such as the *Blake* case[16] is a confusion of two questions which should logically be separated: causal relation, and the intended scope of the statute. For the reasons above pointed out, the intended scope of an administrative regulation should not be submitted to a jury; save under extraordinary circumstances it should not be made a question at all. Neither should the causal connection between the violation and the accident be made a prerequisite to consideration of the violation by a jury. The violation is some evidence of negligence, to be considered as any other evidence, according to the leading case on the subject.[17] The weight to be given the violation is a jury question. It will undoubtedly be weighed according to its direct or indirect relation to the mishap, but the important point is that the evidence is before the jury, not eliminated from consideration by a perfunctory conclusion that it is not the "proximate cause."

It may be objected that the proximate cause doctrine is of value in nullifying the defense of contributory negligence, where the negligence al-

9. *Davis* v. *Whiting*, 201 Mass. 91. 87 N. E. 199 (1909); *Flynt* v. *Rightmeyer et al.*, 177 N. Y. S. 842, 107 Misc. R. 692 (1919).
10. *Cherry* v. *Atlantic Coast Line R. Co.*, 186 N. C. 263, 119 S. E. 361 (1923); *Schmidt* v. *Wisconsin Sugar Co.*, 175 Wis. 613, 186 N. W. 222 (1922).
11. *Flynt* v. *Rightmeyer*, supra note 9; *Propulonris* v. *Goebel Construction Co.*, supra note 7.
12. *Davis* v. *Whiting*, supra note 9.
13. The court in the *Hagymasi* case, supra note 4, recognized this fact in substance, when he charged that "When rules are adopted . . . the effect of them is to warn persons that it is dangerous to operate aircraft other than in accordance with these rules." Later portions of the instructions nullified the effect of the broad charge quoted.
14. *Langellutig*, "Criminal Violations of Regulations," 2 JOURNAL OF AIR LAW 151 (1931); *U. S.* v. *Grimaud*, 220 U. S. 506, 31 Sup. Ct. 480 (1910); *U. S.* v. *Eaton*, 144 U. S. 77, 12 Sup. Ct. 764 (1892).
15. Supra note 5.
16. Supra note 7.
17. *Schumer* v. *Caplen*, supra note 5.

leged to be contributory consisted of the violation of a highly technical regulation. Such an application would be of primary importance in collision cases in which each party violated regulations. There are two answers to the objection. The first is based upon the doctrine of comparative negligence,[18] the use of which is highly consistent with the principle contended for. All violations of regulations might be considered as bearing upon the question of culpability and damages, but the comparative weight of the violations would be the principal consideration in settling the main issue: who was the more negligent. The second answer to the objection is found in the distinction drawn between the "planes of duty" in cases in which each party has violated some statutory duty.[19] This is a less desirable course of action, since it contemplates the evaluation of some evidence by the court. It also necessitates a distinction between rules governing the mechanics of flying, and those dealing with purely administrative details, designed to facilitate the efficient operation of the commission. Such a distinction is practical under present administrative practice, although in some cases the classification would of necessity be arbitrary.

It has been suggested that the proximate cause doctrine might be used to advantage in checking the civil effects of over-regulation. Technically burdensome and prolix regulations might lose their severity when subjected to the acid test of the layman's view of proximate cause. But the same effect may be gained by the use of either of the solutions mentioned above, without subjecting regulations to the ravages of a general use of a misleading doctrine. The commission itself might expressly limit the civil effect of certain regulations of the purely administrative type, and avoid entirely the necessity of extending the protection sought.

The practical effect of the ruling in the instant case, supported by the *Ziser* case and the *Curtiss* case, is to rob commission regulations of much of their efficacy. Criminal proceedings in enforcement are necessarily haphazard, and may conveniently be supplemented by the imposition of civil liability.[20] Such a result can be brought about by adherence to the doctrine of *Schumer* v. *Caplen*,[21] admitting all violations of regulations as some evidence of negligence.

ROBERT L. GROVER.

NEGLIGENCE—VIOLATION OF STATUTE—OVERLOADING—BURDEN OF PROOF.—[New Jersey] The defendant company was engaged in "hopping" trips from the Newark Airport over New York Bay, carrying passengers for $5.00 per head in a tri-motor Ford transport plane. On the particular trip they overloaded the plane, carrying one more passenger than allowed for a capacity load. Shortly after the take-off, the left motor "quit" and the center motor cut its revolutions to almost one-half. The plane was unable to maintain its altitude and crashed into a gondola freight car,

18. *Emel* v. *Standard Oil Co.*, 117 Neb. 418, 220 N. W. 685 (1928); *Florida So. Ry.* v. *Hirsh*, 30 Fla. 1, 11 So. 506 (1892); *Bibb Mfg. Co.* v. *Williams*, 36 Ga. App. 605, 137 S. E. 636 (1927); Note, 14 Ia. Law Rev. 107 (1928); Note, 17 Va. Law Rev. 308 (1931).

19. *Bourne* v. *Whitman*, 209 Mass. 155, 95 N. E. 404 (1911); *Moran* v. *Dickinson*, 204 Mass. 559, 90 N. E. 1150 (1910).

20. The writer of a comment in 13 St. Louis Law Rev. 89 (1927) proposes this remedy to support the efficiency of municipal ordinances, violations of which were not accompanied by civil liability in the jurisdiction of which he wrote.

21. Supra note 5.

with the accompanying disastrous result of the death of fourteen of the occupants, the pilot alone remaining uninjured. In an action brought by the administrators, *ad prosequendum,* of the deceased to recover damages for death by wrongful act, the court *held* that the defendants were liable for negligence as a common carrier because: (1) the pilot was poorly acquainted with the locale and the terrain; (2) the pilot had failed to observe a ground rule; (3) the company had overloaded the plane beyond its originally designed seating capacity. *Ziser* v. *Colonial Western Airways, Inc.,* 162 A. 591 (1932).

Under the general topic of negligence several questions arise, one of which has a double aspect which requires some discussion and consideration. That is: what is the status, as regards negligence, of an air transport company when it has violated, first, a state statute regulating intrastate flying, and second, the regulations of the airport defined by the airways commission of the state?

At the time of the accident, a statute of New Jersey[1] was in force and effect which incorporated, by reference, the rules of the Department of Commerce of the United States in regard to interstate aviation and aircraft, applying them to intrastate flying. The two rules in question in the case were: (1) the provision that the license of aircraft shall be suspended or revoked for operation in excess of the originally designed seating capacity; (2) that a "licensed pilot, authorized to transport passengers for hire, shall not do so in a type of plane which he has not previously operated within the last ninety days for at least two hours . . . ."

The first aspect of the question of the violation of the statute by the defendant company is whether a private right of action arises out of a public wrong. The decisions of the courts in the several jurisdictions are manifestly in conflict on this question. That the legislature has the right to extend or create duties by statute which did not exist at common law is unquestionable.[2] And where civil liability is expressly imposed by the statute for a criminal violation of its provisions, there is no doubt that such liability exists. The nature of the action, however, in such a case is purely statutory and there can be no question of negligence.[3] Where civil liability is not provided for in the terms of the statute, the courts have taken four views in this interpretation of the statute's effect. The majority of the jurisdictions of the United States is committed to the view that even where the statute is penal in character, a violation of it gives rise to a common law action for negligence, consisting in either the breach of the statutory duty and/or the failure to anticipate the injurious consequences which are the probable result of the overt act and/or the omission to fulfill the statutory obligation. That is to say, that the weight of authority holds the breach of a statutory duty is negligence *per se* and, if the other elements of actionable negligence, such as proximate cause, etc., are present, the action will lie in favor of the person within the class protected by the

1. Laws New Jersey, 190 Sec. 7, 1931 U. S. Av. R. 405.

2. *Racine* v. *Morris,* 201 N. Y. 240, 94 N. E. 864 (1911); *Sharkey* v. *Skilton,* 83 Conn. 503, 77 Atl. 550 (1910).

3. *Jonesboro R. Co.* v. *Kirksey,* 134 Ark. 605, 204 S. W. 208 (1918); *Collet* v. *Standard Oil Co.,* 186 Ky. 142, 261 S. W. 362 (1920); *Wojtyna* v. *Bazar,* 47 R. I. 221, 132 A. 384 (1926).

enactment.[4] This doctrine that the violation of a penal statute is negligence *per se* is also the rule in the Federal Courts.[5] A respectable number of the other courts, however, have taken the second view. They refuse to follow the interpretation of the above rule and hold that the violation of a penal statute only raises a *prima facie* presumption of negligence.[6] Still other jurisdictions have taken a third view, holding that the violation of a criminal statute is "some evidence of negligence." The courts of these jurisdictions have based their decisions on the theory that the ordinary prudent man, who in his fictionized person is presumed to know the law, would realize that the legislature had denominated such conduct as dangerous.[7] In one jurisdiction, namely Kentucky, still a fourth view is taken. This is the extremely strict view that in the absence of an express provision for civil liability, the statute does not apply to civil actions and cannot be considered at all in the matter of a common law action for negligence.[8]

The instant case was decided on the ground that such a violation is only "some evidence of negligence." the court giving the following instructions, which were upheld on review: "the effect of the violation . . . is not negligence . . . that when . . . rules, such as these, are adopted, the effect is to cause the person to foresee that it is dangerous to operate other than in accordance with these rules . . . . Therefore when an accident occurs—and note this point—as a result of the violation . . . it is always a question which the jury may take into consideration as to whether or not the violation was negligence." This is a compromise midway between the Kentucky view that the statute was passed *alio intuitu* and therefore does not relate to civil matters and the view of the greater weight of authority that such a violation is negligence *per se* in a civil action. The New Jersey court in an earlier case, while commenting on Dean Thayer's, Public Wrong and Private Action,[9] says ". . . the reason why no civil action can be based on violation of the statute is because no right of action was given by the legislature in the statute . . . the statute seeks only to eliminate the source of danger to the public by imposing a penalty . . . the legislature could, if it so intended, have provided that anyone injured by the violation might have a private right of action . . . the plaintiff must recover on the theory of common law negligence."[10] This has been the consistent view of the New Jersey courts,[11] meanwhile, and continues in the principal case. It is submitted that the

4. *Tarrance* v. *Chapman*, 196 Ala. 88, 71 So. 707 (1916); *Murphy* v. *Adams*, 99 Conn. 632, 122 A. 398 (1923); *Presto-Lite Co.* v. *Skeel*, 182 Ind. 593, 106 N. E. 365 (1914); *Parman* v. *Lehman*, 119 Kan. 323, 244 P. 227 (1926); *Hillstrom* v. *Mornkimer*, 146 Minn. 202, 176 N. W. 881 (1920); *Kelley* v. *Anderson*, 15 S. D. 107, 87 N. W. 579 (1901); *Tenn. Cent. R. Co.* v. *Page*, 153 Tenn. 184, 282 S. W. 376 (1926); *Smith* v. *Taylor Button Co.*, 179 Wis. 232, 190 N. W. 999 (1922).

5. *St. L. I. M. & S. R.* v. *Neal, Adm.*, 210 U. S. 281, 28 Sup. Ct. 616 (1909).

6. *Ward* v. *Meredith*, 220 Ill. 66, 77 N. E. 119 (1906); *Martin* v. *Herzog*, 228 N. Y. 164, 126 N. E. 814 (1920—but note that the legislature had provided that the violation would raise the presumption); *Hubbard* v. *Bartholomew*, 163 Ia. 58, 144 N. W. 13 (1913).

7. *Pollock* v. *Ham*, 177 Ark. 348, 6 S. W. (2d) 541 (1928); *Rule* v. *Clark Transfer Co.*, 102 Neb. 4, 165 N. W. 883 (1917); *Stehle* v. *Jaeger Co.*, 220 Pa. 617, 69 A. 1116 (1908); *Eames* v. *Caplin*, 252 Mass. 205, 147 N. E. 582 (1925).

8. *Ford* v. *Paduca R.*, 124 Ky. 488, 99 S. W. 255 (1907); *Pritchard* v. *Collins*, 228 Ky. 635, 15 S. W. (2d) 497 (1929).

9. *Selected Essays on the Law of Torts*,

10. *Evers* v. *Davis*, 86 N. J. L. 196, 201, 90 A. 677 (1914).

11. *Kalankiewiz* v. *Burke*, 91 N. J. L. 567, 103 A. 249 (1918).

courts' strict interpretation of the legislative intent is the proper one. No more should be attributed to a statute, which does not have the fault of ambiguity, than what appears on its face. But the courts' difficulty eventually arises at the point where it speaks of the effect of the statute as causing the actor to "foresee that it is dangerous to operate other than in accordance with these rules." Is it not a *non-sequitur* for the court to say "that the jury may take this into consideration"? It would seem that the court then is substituting the opinion of the jury for that of the legislature. This is the hurdle which the above view fails to clear. It is submitted that, if the court were to make the distinction that the jury may use this in its deliberations because it is only applying the expressed intent of the legislature in a *criminal* proceeding as a yardstick for measuring activity in a *civil* proceeding, it would avoid the inconsistency of its position.

The court further charged that the violation of the ground rule, which provided that the first turn after the take-off should be to the left, was some evidence of negligence. This instruction would be followed even in those jurisdictions which hold that the violation of a statute is negligence *per se*.[12] The holding is based on the theory that regulations do not have the formality and definiteness of a statute. Indeed, some jurisdictions have made a distinction between a statute and a municipal ordinance, holding that the violation of the former may be negligence *per se* but the violation of the latter can only be evidence of negligence.[13]

The second aspect of the violation of the statute is "whether a statute, which has previously been termed unconstitutional, can be evidence of negligence." In a recent nisi prius decision,[14] a New Jersey Court held that this statute, which had been reenacted in 1931, was unconstitutional on the grounds that by (1) the incorporation of standards of another sovereignty; and (2) the delegation of authority to a commission to set the standard of activity, the legislature had failed to set up a sufficiently definite standard.[15] It is submitted that, in view of these courts holding such statutes unconstitutional, the violation of the same court not, under any circumstances (in so far as the objection of the courts to these statutes has been that "they set up too vague and uncertain a standard") be admitted as evidence of negligence.

Considering the *Ziser* case in the light of the future it may be said that the court has laid down a sane rationale of the rules of negligence to be followed in considering that class of cases which is bound to arise more and more frequently with the subsequent growth and effective development of the airplane as a means of transporting traffic.

G. W. K SNYDER.

DIGESTS

DAMAGES—WRONGFUL DEATH—AMOUNT OF VERDICT.—[New Jersey] The case of *Boele, Administratrix* v. *Colonial Western Airways*, decided by the New Jersey Supreme Court, 158 A. 440, 1932 U. S. Av. R. 51, was affirmed

12. *Schumer* v. *Caplin*, 241 N. Y. 346, 150 N. E. 139 (1925).
13. *Rotter V. Detroit R.*, 205 Mich. 212, 171 N. W. 514 (1919).
14. *State* v. *Larson*, 10 N. J. Misc. 284 (1932).
15. *Ex parte Burke*, 190 Cal. 326, 212 P. 193 (1923); *In Re Opinion of Justices*, 230 Mass. 606, 133 N. E. 453 (1921); *Liberty Highway Co.* v. *Mich. Public Utilities*, 294 Fed. 703 (Dist. Ct. E. D. Mich. S. D., 1923). But see *Schumer* v. *Caplin*, cit. note 12, where the court did not expressly hold on the constitutionality of the statute but intimated that it would be so, and held that the violation of a regulation was some evidence of negligence.

by the New Jersey Court of Errors and Appeals, January 31, 1933. 233 C. C. H. 3019.

For a digest, stating the facts of the case, see 4 JOURNAL OF AIR LAW 118.

F. D. F.

GASOLINE TAX—STORING AND DISTRIBUTING—ULTIMATE USE IN INTERSTATE COMMERCE.—[U. S. Supreme Ct.] The case of *The Nashville, Chattanooga & St. Louis Ry.* v. *Wallace*, decided by the Supreme Court of Tennessee, April 29, 1932, was affirmed by the United States Supreme Court, February 6, 1933. 233 C. C. H. 3055.

For a digest stating the facts of the case, see 3 JOURNAL OF AIR LAW 468.

F. D. F.

INSURANCE — PARTICIPATION IN AERONAUTICS — DOUBLE INDEMNITY. — [Federal] Suit was brought to recover double indemnity on three policies of insurance each of which policies contained provisions that the double indemnity benefit should not be payable if the death of the insured resulted "directly or indirectly, wholly or partly . . . from participation in aeronautic . . . operations." Insured was president of an airplane company. At the time of his death he was riding as passenger in one of his own planes, paying the company for the gasoline and oil and the services of the pilot as would any ordinary passenger: *Held:* insured was participating in aeronautic operations within the meaning of the clause. *First National Bank of Chattanooga* v. *Phoenix Mutual Life Ins. Co.*, 62 F. (2d) 681. Decided January 17th, 1933, C. C. A. 6th Cir. Tenn.

This case merely adds one more authority to the impressive law which has gathered about the distinction between "engaging" and "participating" in aeronautics. The highly artificial basis for this distinction was pointed out in a comment in 3 JOURNAL OF AIR LAW 311.

GEORGE W. BALL.

INSURANCE—ENGAGING IN AERONAUTICS—DOUBLE INDEMNITY.—[Federal] Plaintiff sued in equity as the beneficiary named in two accident insurance policies to compel the defendant to pay to itself as trustee for the plaintiff's use $60,000. Insured was killed while riding as a passenger in an airplane. Each of the policies in litigation here contained provisions that if the insured lost his life "from engaging, as a passenger or otherwise, in submarine or aeronautic operations" double indemnity would not be paid. The court decided that the phrase "as a passenger or otherwise" could not well be disregarded and that its effect was to take this case out of that group of cases in which "engaged" has been defined to imply some active operation of the airplane. *Goldsmith* v. *New York Life Ins. Co.*, 233 C. C. H. 3003. Decided December 8th, 1932, U. S. Dist. Ct., Eastern Dist. of Mo.

The implication from the language used in this policy that a passenger may engage in aeronautic operations and the acquiescence by the court to the use of that language would seem rather to deny the validity of those innumerable decisions which hold that a passenger may "participate" but certainly may not "engage" in aeronautic operations. The use by the insurance company of the word "engage" in this case clearly demonstrates that the carriers themselves had no idea of this distinction when these policies were written. Courts, however, have attributed to insurance companies a subtlety in the use of language which apparently they have not possessed.

GEORGE W. BALL.

NEGLIGENCE—COMMON CARRIER—UNAVOIDABLE ACCIDENT.—[Illinois] The case of *McCusker* v. *Curtiss-Wright Flying Service, Inc.*, 1932 U. S. Av. R. 100 (Circ. Ct. Cook County) was affirmed by the Illinois Appellate Court, 1st Department, February 21, 1933. 233 C. C. H. 3022.

For a digest, stating the facts of the case, see 4 JOURNAL OF AIR LAW 120.

F. D. F.

NEGLIGENCE—AIRPLANE ACCIDENT—INFERIOR GASOLINE—STATUTE OF LIMITATIONS AVOIDED—FRAUDULENT CONCEALMENT OF CAUSE OF ACTION.—[Tennessee] The plaintiff's husband took passage with the Southern Flyers, Inc., for a trip from Chattanooga to Florida. The plane was equipped with gasoline furnished by the defendant oil company, with full knowledge of its intended use in an airplane. In the course of the flight the motors refused to respond to the pilot's urging, and the aircraft fell suddenly to the ground, thereby causing the death of plaintiff's husband. The accident, it is now discovered, was occasioned by an inferior quality of gasoline. The defendants were aware of this situation and, to avoid possible liability, compelled their employees to remain silent as to the inferior quality of the gasoline under threat of losing their employment. These facts were discovered only two months before this action (for damages for wrongful death) was brought and over two years after the death occurred. A one year statute of limitations controls these actions in Tennessee. The plaintiff would circumvent the effect of the statutory limitation by averring that defendants fraudulently concealed the causes of action. A demurrer to the declaration was sustained in the trial court and the suit dismissed. On appeal to the Supreme Court, the judgment was affirmed on the ground that defendants had not fraudulently concealed the plaintiff's cause of action, since: (1) there was no contractual or confidential relation between the parties which would impose a legal or equitable obligation to make a disclosure. (2) Mere silence of itself does not constitute fraud; (a) there must be a withholding of information asked for, or (b) the use of some trick or device to intentionally avoid suspicion. (3) There was an insufficient showing of facts to warrant the conclusion that an efficient investigation of the cause of accident was made. *Patten* v. *Standard Oil Co. of Louisiana*, — Tenn. —, 55 S. W. (2d) 759 (1933).

LEO FREEDMAN.

SALE OF AIRCRAFT—WAIVER OF DEFAULT BY SELLER—NECESSITY OF NOTICE BEFORE FORFEITURE.—[Utah] This was an action to recover possession of and title to an airplane. Peck, the vendor of two airplanes sold to Brenner and Luke, partners, agreed with the latter that a balance of $975 owing him on the purchase price of the first plane be considered as part of the purchase price of the new plane. Accordingly, the partners signed a title-retaining note on the new plane for the amount of this unpaid balance. No payments were made on the due dates specified. Peck then assigned his note to the defendant, Stevens, who was employed by the plaintiff corporation, which was the assignee of the partnership. Subsequently the defendant, having completed his day's work, took the plane to the hangar of a different company and then for the first time, without notice or demand on the plaintiff, notified the plaintiff that he held the note. The plaintiff tendered the amount of the note plus interest but this tender was refused by the defendant because it did not include his wages. The defendant contended that he rightfully repossessed the plane because of the default. The plaintiff's position was that Peck, by accepting payments on the note after the due date thereof, thereby waived strict performance of the contract, and that neither he nor his assignee, Stevens, could thereafter lawfully repossess the plane without first giving the plaintiff notice and a reasonable opportunity to pay the balance due, and that further, when the full amount due on the note was tendered, the plaintiff became the owner and entitled to possession of the plane. *Held*, judgment for plaintiff. Peck's conduct sufficiently showed an intention to waive the strict performance of the contract and to receive further payments. Peck had waived the default; consequently he must give notice and an opportunity for payment before a forfeiture and repossession could be claimed. Therefore, when the defendant, as assignee of Peck, took possession of the plane he did so wrong-

fully, so that when tender was made of the whole amount due, the plaintiff became entitled to the possession of and title to the plane. *Columbia Airways, Inc.* v. *Stevens,* 14 P. (2d) 984 (Utah, 1932).

DAVID AXELROD.

WORKMEN'S COMPENSATION—PLACE OF EMPLOYMENT.—[New York] Decedent, an airplane pilot, was killed in Connecticut while piloting a plane from Boston, Massachusetts, to Newark, New Jersey. The contract of employment was made in New York City in the main office of the employer, a Connecticut corporation. The State Industrial Board decided that decedent's place of employment was in the State of New York, and awarded plaintiff compensation under the New York Workmen's Compensation Law. This award was affirmed by the Appellate Division of the Supreme Court, and upon appeal to the Court of Appeals was affirmed without an opinion. *Tallman* v. *Colonial Air Transport, Inc. et al.,* 259 N. Y. 512 (1932).

LEO FREEDMAN.

WORKMEN'S COMPENSATION—SCOPE OF EMPLOYMENT—INJURY RESULTING FROM PROHIBITED ACROBATIC FLYING.—[Wisconsin] A pilot who carried passengers on short observation flights, was killed when his plane, in which he was carrying two passengers failed to right itself after entering upon a power dive. The Industrial Commission awarded compensation to the wife of the deceased. The case was appealed to the Circuit Court which reversed the finding of the Industrial Commission and held that the deceased had stepped out of the course of his employment by making the dive and that therefore his widow was not entitled to compensation. The Industrial Commission appealed to the Supreme Court. The award of compensation was resisted by the defendant employer on three grounds: (1) the defendant was not subject to the Workmen's Compensation Act because it did not have three persons in its employ within the meaning of the Act; (2) the deceased was not engaged in performing services growing out of and incidental to his employment at the time of the accident; (3) the jurisdiction over the subject-matter of this action was vested in the Federal Government exclusively, and the industrial Commission had no jurisdiction over it. It appeared that at various times from three to five persons were employed by the defendant in moving, preparing and piloting the planes. *Held:* reversed and remanded. The defendant was within the provisions of the Workmen's Compensation Act. The Circuit Court erred in making a finding of fact when there was a conflict in the inferences or presumptions that could be drawn from the evidence on that subject; such finding should have been made by the Industrial Commission. The state Workmen's Compensation Act is applicable to employees and employers who are engaged in intrastate aircraft navigation: *Sheboygan Airways* v. *Industrial Commission* 245 N. W. 178 (1932).

For a note on the merits of this case see 3 JOURNAL OF AIR LAW 464.

WESLEY F. HANNER.

BOOK REVIEWS

Department Editor..... FRANK E. QUINDRY

LUFTVERKEHRSGESETZ. By Rüdiger Schleicher. Berlin: Carl Heymanns Verlag, 1933. Pp. xii, 350.

This book offers the best summary and explanation of German air regulation which has yet been published. Associated with the Ministry of Communications of the Reich, Dr. Schleicher is thoroughly familiar with the interpretations which have been given to the various provisions of the statute law and decrees, and it is in the commentaries that the great value of the volume is to be found.

Following a short introduction, the provisions of the law of August 1, 1922, are set out in full. The next hundred and twenty pages are devoted to an explanation of the various provisions. Each section of the statute is set forth in bold face type and is followed with a detailed commentary—with appropriate references to other regulations and to leading articles.

Part II presents the orders and decrees pertaining to German air commerce, together with detailed comment, and includes twelve annexes containing documentary material. The final fifty pages are devoted to twenty-one appendices containing the texts of several miscellaneous decrees; certain commercial air navigation agreements, customs provisions, etc.; a summary of the Versailles Treaty provisions and later decrees; and a reference to the air regulations pertaining to Danzig, Saar Territory, and Austria.

As a German reference manual, this volume will be invaluable.

F. D. F.

FUNKRECHT IM LUFTVERKEHR. By Heinz Gisart. Königsberg: Ost Europa Verlag, 1932. Pp. iv, 177.

The author of this typical German book devotes 144 pages of text to a discussion of the matters in regard to which radio is of importance to aviation and adds 24 pages of references and six pages containing a list of books and articles. A resumé of the preface will give the reader a better idea of the reason for the book than any other type of review could accomplish.

The author states that a full technical and economic utilization of aviation could not be accomplished without radio. This is so today and will be so much more in the future. Radio today is one of the chief means of securing safety in flight. When aviation's main purpose will be to connect continents instead of cities, the importance of radio will grow proportionately. Whether telephony, telegraphy or television is used will be a matter of minor importance, though television will be important in transmitting weather maps. The author distinguishes three types of radio transmission, namely (1) for the amusement of the passengers; (2) for keeping commercial men and state officials in touch with their affairs; and (3) for the purposes of safe navigation. The first obviously is of

minor importance. The second will be much more important than it is today when continents instead of cities are spanned by aircraft and consequently a much longer time is spent in the air by the passengers. The third is the most important today and will remain so in the future. Radio will guide aircraft in their flight and bring speedy relief in case of disaster. Even a safe landing on the water will not terminate the danger in such cases. Ships must be called to effect the rescue in such cases and radio is the messenger.

The book is divided into four chapters. In the first, the international treaties dealing with aviation and radio are discussed. The second discusses four principles which more or less conflict with the new development, namely (1) the state news monopoly, (2) the secret police domain, (3) the rights of others freely to send and receive radio messages, and (4) the sovereignty of the state. The fourth chapter contains speculations as to the future development of the law. The third and most important chapter deals with the present law but consists mainly of discussions of the various provisions of the various treaties dealing with aviation and radio. Like many continental works of law it will not be as helpful to the American lawyer as it might be if more stress were laid on such decisions as are available or if proper analogies to existing decisions were worked out.

Perhaps the chief importance of the book consists in showing the close connection between aviation and radio. While radio is independent of aviation and can develop fully without it, aviation is and forever will be, dependent on radio and cannot even approximately develop without it. The two new arrivals in the family of law, though one is related to transportation and the other to communication, are thus closely linked together.

CARL ZOLLMANN.

ANNUARIO DELLA AERONAUTICA, 1932. Published by the Italian Touring Club at Milan, 1932. Pp. 1116.

The portions of this excellent year-book which will be of greatest interest to lawyers will be found in the following pages: 381-431, setting forth the organization of aeronautics in Italy and the decrees from 1915-1925; 453-517, dealing with civil aeronautics; and 793-817, containing the various international agreements together with the Italian legislation.

Like any other annual, the volume contains a record of the general progress of aeronautics, commercial and military.

F. D. F.

LA GUERRE DE L'AIR. By Giulio Douhet. Translated from the Italian by Jean Romeyer, preface by General Tulasne. Edited by the Journal, "Les Ailes," Paris, 1932. Pp. 190.

The Italian general, Giulio Douhet, who died at the end of 1930, has received considerable recognition for his work in the field of aeronautical research. In all his writing he has emphasized the importance of the dominion of the air, and in this, his last book, he not only sums up all his earlier principles but goes even farther and looks into the future to predict

the principles used in and the outcome of a future war, in which air forces would play the major part.

The first section, The Principles of Aerial Warfare, is divided into four chapters, Comments on the Future War, The Dominion of the Air, The Equipment of the Aerial Army, and the Technique of the Air War. The second half of the book, The Army of the Air in Action, or the War of 19.., is likewise divided into four chapters, The Military Organization of France, The Military Organization of Germany, The Plans of the Opposing Forces, and the Battle of June 16, 19... All of these chapters are further subdivided and the subject matter discussed in interesting detail. There is a short bibliography of aerial warfare at the end of the book, and on page 168 he has included a map of the plan of the future war.

General Douhet proposes the elimination of any auxiliary air force, building up only an air force for the conquest of the dominion of the air. "To have dominion of the air," he says, "is to keep the enemy from flying and to keep oneself always in readiness to fly." Such are the theories presented in the first part of this work. Compared to the efficacy of an air force in battle, the powers of both land and sea forces are negligible. In whatever future war there may be, aircraft will be used more than anything else, and such equipment should therefore be developed now. The most important principle which he sets forth is that sea and land forces should be used only for defensive purposes, whereas an air force is to be used for the offensive, *Resistere sulla superficie, per far massa nell'aria.*

This is a very interesting and carefully worked out study of the general principles of warfare in which air forces are of the greatest importance, and it is of unique interest as a study emphasizing the necessity of air armament.

KATHERINE FRITTS.

THE LAW OF TRANSPORT. By M. E. Holdsworth. London: Butterworth & Co., 1932. Pp. xxiv, 202.

This volume is written primarily for students without legal training and is a brief summary of the legal provisions governing transportation services. Chapter X, on Air Carriers, is the only one of interest to those concerned with air law. It is too brief to give more than an identification of some of the major problems. The book, as a whole, does give a good picture of the British transport picture and will serve as a valuable elementary text on the subject.

F. D. F.

THE REFERENCE COLUMN

Department Editors..... { LORRAINE ARNOLD / KATHERINE FRITTS }

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